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Clinical Practice Guideline for the Management of Borderline Personality Disorder

APPENDIX H: Evidence Tables

Electronic document

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Disclaimer

This document is a general guide to appropriate practice, to be followed subject to the clinician's judgement and patient's preference in each individual case. The guideline is designed to provide information to assist decision-making and is based on the best available evidence at the time of development of this publication.

Contact:

National Health and Medical Research Council 16 Marcus Clarke Street Canberra ACT 2601

GPO Box 1421 Canberra ACT 2601

Phone: 61 2 6217 9000 Fax: 61 2 6217 9100 Email: nhmrc@nhmrc.gov.au Web: www.nhmrc.gov.au

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National Health and Medical Research Council

CLINICAL PRACTICE GUIDELINE FOR THE MANAGEMENT OF BORDERLINE PERSONALITY DISORDER

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Presentation of the evidence

Guideline adaption

This guideline is an adaptation of the UK National Institute of Clinical Excellence (NICE) Guideline. Where the NHMRC BPD Guideline Development Committee agreed to update the clinical questions included in the NICE guideline, all papers retrieved by NICE were used as the evidence base from 2001 – 2008. The systematic search was used to update the body of evidence for the NICE questions from 2008 – 2011. The updated searches for the NICE questions were based upon new search strings developed using a combination of:

- a) The searches undertaken in the NICE Guideline
- b) The aims and scope of the NHMRC guideline
- c) The clinical questions and inclusion and exclusion criteria developed by the NHMRC BPD Guideline Development Committee in February 2011, and those of the NICE guideline.

For the 5 new clinical questions (Qu 3, 4, 10, 11, 14) not previously included in the NICE guideline but developed by the NHMRC BPD Guideline Development Committee, a new strategy was undertaken with a search period from 2001 – 2011.

The included papers retrieved from the different search strategies are differentiated in this document using the following terms:

- **Updated search** used to describe the process of the systematic search of the literature used to update the body of evidence for the NICE questions.
- **NICE Guideline summary** the summary of evidence from the NICE findings as developed by the NICE guideline group.
- **Summary** summary of evidence from the updated search or the new strategy as developed by the NHMRC BPD Guideline Development Committee.

How to read the evidence summaries, evidence tables and forest plots

Evidence summaries

An evidence summary is provided for each clinical question including what evidence was available. For some clinical questions, no evidence was identified.

Evidence summaries provide a snapshot of studies addressing each clinical question. For a detailed assessment of each paper's outcomes, quality and relevance, it is essential to read the evidence tables.

Evidence tables

Evidence summaries are accompanied by evidence tables which provide an analysis of each study that met the inclusion criteria, including assessment of study quality.

When reading an evidence table it is common to refer to the highest level of evidence to answer each question and move through the hierarchy of evidence as required. Studies are presented in the tables in order of level of evidence. When two or more studies were classified at the same level of evidence they are ordered by publication date from most recent to least recent.

Each study was assessed using quality checklists appropriate to the type of study design used. Specific Quality Checklists (QC) used and their criteria are outlined in Appendix B (page 19). The results of these assessments have been included against each study in the comments section of the evidence tables.

Two reviewers extracted the data and assessed it using the Quality Checklist (QC) included in Appendix B (page 19).

Evidence statement forms

The committee used the NHMRC Evidence Statement Form to review the body of available evidence with regard to the volume of evidence and its consistency, clinical impact, generalisability and applicability. The evidence was graded according to NHMRC grading criteria. Evidence tables are accompanied by evidence statement forms to provide information on how the committee made judgements on the basis of the body of evidence relevant to specific research questions.

Meta-analysis

In the instance of clinical questions 6, 7 and 9, data from the included studies have been combined statistically to produce summary estimates of effect using the statistical meta-analysis program Comprehensive Meta-Analysis (CMA) 2.0.

Through statistically pooling (meta-analysing), more precise estimates of the effect of the intervention on the important outcomes can be obtained and compared with individual studies considered in isolation. Meta-analysis increases the statistical power of the analysis and may find a statistically significant result where none of the individual studies included in the analysis were found statistically significant when considered in isolation.

Forest plots

The results of the meta-analysis are displayed graphically in forest plots which show the individual results of each study together with the combined meta-analysis result. Forest plots also include the overall risk ratio for that outcome. The results of individual studies are shown as squares centred on each study's point estimate. A horizontal line runs through each square to show each study's 95% confidence interval. The overall estimate from the meta-analysis and its confidence interval are shown at the bottom, represented as a diamond. The centre of the diamond represents the pooled point estimate, and its horizontal tips represent the confidence interval.

Forest plots usually include a "line of 1" (for dichotomous outcomes) and are labelled at the bottom with 'favours the intervention' or 'favours the comparator' which assist users to interpret the findings. If the lines showing 95% confidence intervals for individual studies, or the diamond showing the confidence intervals of the pooled relative risk, cross the "line of 1", then the result is not statistically significant.

The forest plot also allows readers to see the heterogeneity among the results of the studies. This can be assessed informally by considering the spread of results and the direction of outcomes for the included studies (i.e. by looking at the square box and line plots). The results or estimates of effects of treatment from separate studies may seem to be very different – in terms of the size of treatment effects or even to the extent that some indicate beneficial and others suggest adverse treatment effects. Such results may occur because of differences between studies (e.g. the patient populations, outcome measures, definition of variables or duration of follow-up).

NHMRC Evidence hierarchy: designations of 'levels of evidence' according to type of research question

Level	Intervention	Diagnostic accuracy	Prognosis	Aetiology	Screening Intervention
I	A systematic review of level II	A systematic review of level	A systematic review of	A systematic review	A systematic review of
	studies	II studies	level II studies	of level II studies	level II studies
П	A randomised controlled trial	A study of test accuracy with: an	A prospective cohort study	A prospective	A randomised controlled
		independent, blinded comparison		cohort study	trial
		with a valid reference standard,			
		among consecutive persons with a			
		defined clinical presentation			
III-1	A pseudorandomised controlled trial	A study of test accuracy with: an	All or none	All or none	A pseudorandomised
	(i.e. alternate allocation or some	independent, blinded comparison			controlled trial
	other method)	with a valid reference standard,			(i.e. alternate allocation or
		among non-consecutive persons			some other method)
		with a defined clinical presentation			
III-2	A comparative study with concurrent	A comparison with reference	Analysis of prognostic	A retrospective	A comparative study with
	controls:	standard that does not meet the	factors amongst persons	cohort study	concurrent controls:
	 Non-randomised, experimental trial 	criteria required for	in a single arm of a		 Non-randomised,
	Cohort study	Level II and III-1 evidence	randomised controlled		experimental trial
	Case-control study		trial		Cohort study
	 Interrupted time series with a 				 Case-control study
	control group				
III-3	A comparative study without	Diagnostic case-control study	A retrospective cohort	A case-control	A comparative study
	concurrent controls:		study	study	without concurrent
	 Historical control study 				controls:
	 Two or more single arm study 				 Historical control study
	 Interrupted time series without a 				 Two or more single arm
	parallel control group				study
IV	Case series with either post-test or	Study of diagnostic yield (no	Case series, or cohort	A cross-sectional	Case series
	pre-test/post-test outcomes	reference standard)	study of persons at	study or case series	
			different stages of disease		

Source: NHMRC Levels of evidence and grades for recommendations for developers of guidelines 2009

Clinical Question 1. What can help clinicians identify features of BPD in young people?

NICE Guideline summary

Notes: NICE did not do a systematic search on this clinical question but the question was addressed by a team of special advisors who identified a number of clinical features from Chanen (2007):

- Frequent suicidal/self harming behaviours
- Marked emotional instability
- Increasing intensity of symptoms
- Multiple comorbidities
- Non response to established treatments for current systems
- High level of functional impairment
- Chanen et al. (2008)¹ also note a range of symptoms associated with early detection: Disruptive behaviour disorders in childhood or adolescence, depressive symptoms predict young adult personality disorders; substance use disorders during adolescence predict young adult BPD. Symptoms of BPD in youth are as reliable and valid as those in adults and most likely predictors of adult BPD

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

¹ Screening for borderline personality disorder in outpatient youth. Journal of Personality Disorders, 22(4), 353-364.

Clinical Question 2. Are there tools/assessments that could be used?

NICE Guideline summary

Notes: NICE did not do a systematic search on this clinical question but the question was addressed by a team of special advisors who refer to Chanen (2008) outlined below for ease of reference.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Screening for borderline	Validity study – Level II or Level III-2	101	Mean age 18.8 (15-25yo) 73% female 22% met criteria for BPD Most common Axis I: 55% mood disorders, 51% anxiety disorders, 21% substance dependence, 19% eating disorders. Outpatients in a youth mental health facility.	MSI-BPD BPQ BPD items from IPDESQ BPD items from SCID-II- PQ-BPD	SCID-II (full)	All 4 instruments performed similarly. BPQ significantly outperformed MSI BPQ preferred overall for best balance of sensitivity, specificity, negative and positive predictive value, diagnostic accuracy (0.85), kappa, internal consistency and test-retest reliability but is lengthy to administer (15 mins) SCID-II-PQ-BPD best of the shorter instruments.	NA	NA	NA	Authors conclude in abstract (but not clearly evidenced in body of paper) that screening is effective, but not a replacement for clinical diagnosis Blinding not fully described.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 3. What are the risk factors for BPD?

NICE Guideline summary

This was a new question – No NICE summary is available

Updated search

Summary

The study of risk factors is methodologically complex. In this search only prospective population cohort studies, or prospective or retrospective cohort studies with matched control groups, were included. Three studies were identified that met the criteria and specifically examined risk factors for the development of BPD. The three studies show that a number of early childhood variables increase risk of developing BPD including parental socio-economic status, a history of trauma or stressful life events, poor or inconsistent parenting and psychiatric comorbidity.

Reference	Summary	Comments
Cohen 2008	The main finding was that low SES (low income, low education level, low-status occupation) showed robust modest predictive effects of BPD even when other predictive risk factors were taken into account. Other substantial cumulative effects included: being female, cumulative trauma history (history of child abuse or neglect, parental alcohol or substance abuse or dependence, parental arrest/imprisonment, parental death, death of a spouse, death of a child, army combat experience, close personal exposure to violent death, or family suicide), stressful life events, IQ, poor parenting and comorbidity.	Large prospective sample, but most measures were mother-reported, although standardised, and some subjective and collected retrospectively.
Fischer 2002	A significantly greater percentage of hyperactive children than control children were diagnosed with BPD at follow-up (3% of 14%) suggesting that hyperactivity in childhood is a risk factor for BPD in early adulthood.	Small prospective cohort study with matched control originally assessed when they were between 4-12 yo and reassessed in this paper when they were 19-25 yo.
Widom 2009	Abused or neglected children were matched with non-victimised children on age, sex, ethnicity and social class and followed up into young adulthood. Rates of BPD in the controls were higher than in the community. Last finding about parents divorced or separated not clear from the paper but stated in the conclusions.	Large prospective cohort study with two waves of follow-up. First interview 1989-95 (29 yo). Second interview 2000-2002 (40 yo) data analysis on 2nd interview.

Notes : Review of the stability of BPD on page 349-355 of the NICE guidelines is also recommended.

Evidence table

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Compariso n	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Country	Level of		Gender		"			ioliow-up	Size	
	Evidence		Diagnosis							
	LVIGETICE		Other							
Cohen, P.,	Prospective	N=787	CIC study	In the	4 waves :	Summary: Low family	Cumulative	1983 – 1986		Strengths of the
Chen, H.,	Cohort		participants were	analyses	<u>1983</u> : Age	SES had robust modest	trauma	4 waves		study include the
Gordon, K.,	Study		members of a	reported	13.74 (2.56)	independent effects on		over 4 years		stability of sample
Johnson, J.,	Level 3		cohort of	here we	Cumulative	development of BPD	Schizotypal	,		participation, its
Brook, J., &			children born	examine the	trauma 0.71	despite substantial	symptoms			diversity in terms
Kasen, S.			between 1965	direct	(1.24)	effects of trauma	' '			of SES and urban,
(2008).			and 1974 and	effects of	Borderline	history, stressful recent	Borderline			suburban, and
Socioeconomi			first assessed for	family SES	symptoms	life events, IQ, poor	symptoms			rural residence, as
c background			mental disorders	on the level	26.02	parenting, and				well as the
and the			in 1983.	of	(11.89)	comorbid symptoms.	Depressive			extensive period
development				schizotypal	Depressive		symptoms			over which these
al course of			The sample was	and	symptoms					repeated
schizotypal			based on a	borderline	5.44 (3.39)					assessments were
and			random	PD						made.
borderline			residence-based	symptoms	<u>1986</u> : Age					
personality			cohort of	as they	16.14 (2.76)					Large prospective
disorder			children between	change over	Cumulative					sample, but most
symptoms.			the ages of 1 and	four	trauma 0.90					measures were
Development			10 originally	assessments	(1.42)					mother-reported,
and			drawn from 100	beginning as	Borderline					although
Psychopathol			neighbourhoods	young as	symptoms					standardised, and
ogy, 20(2),			in two upstate	age 9 and	24.96					some subjective
633-650.			New York	ending as	(10.52)					and collected
			counties in 1975.	old as age	Depressive					retrospectively.
USA				38.	symptoms					
			In the first		5.23 (3.26)					QC
			follow-up in 1983	Effects of	<u>1992</u> : Age					1.1=A
			the located	SES	22.04 (2.72)					1.2=A
			sample was	mediated by	Cumulative					1.3=A
			supplemented	offspring IQ,	trauma 1.07					1.4=YES
			with a newly	cumulative	(1.55)					1.5=E
			drawn sample in	trauma,	Borderline					1.6=E
			urban poverty	problematic	symptoms					1.7=A
			areas in the same	parenting,	23.45					1.8=F

Ref,	Study	N (n)	Participants	Intervention	Compariso	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/	` '	Age		n			follow-up	Size	
•	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			counties to	and recent	(11.11)					1.9= A
			replace those	SLEs are also	Depressive					1.10=F
			lost to follow-up	reported.	symptoms					1.11=A
			because of		5.47 (3.57)					1.12=A
			neighbourhood							1.13=A
			obliteration		<u>2003</u> : Age					1.14=NO
			following urban		33.14 (2.90)					2.1 = (+)
			renewal.		Cumulative					
					trauma 1.28					
			Mothers and		(1.72)					
			children were		Borderline					
			interviewed in		symptoms					
			their homes by		18.82					
			trained lay		(11.22)					
			interviewers in		Depressive					
			1983 (778		symptoms					
			families), 1986		5.11 (5.93)					
			(776 families,							
			including 34							
			newly located							
			families from the							
			1975 cohort),							
			and 1991–1994							
			(776 families), at							
			mean offspring							
			ages 13.7 (SD 1/4							
			2.6), 16.1 (SD ¼							
			2.8), and 22.0 (SD							
			1 /4 2.7),							
			respectively.					<u></u>		
Fischer, M.,	Prospective	N= 158	Evaluation 1-	NA	Control V	S ummary: Results	Structured	The	Problems	Small prospective
Barkley, R.A.,	Cohort	n=81	1979-80 when		Hyperactive	suggest that	Clinical	participation	may also	cohort study with
Smallish, L., &	Study		they were 4 – 12		(H group)	hyperactive children are	Interview for	rate at this	exist	matched control
Fletcher, K.			years old.			at significant risk for at	DSM-III-R	follow-up	with the	originally assessed
(2002). Young	Level 3					least 1 non-drug	Disorders	was 93%	nature of	when they were

Ref, Country	Study Design/	N (n)	Age	tervention	Compariso n	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of		Gender							
	Evidence		Diagnosis Other							
adult follow-			Evaluation 2 -			disorder in young	Structured	(147 of 158)	the	between 4-12 yo
up of			1987-88 when			adulthood, principally	Interview of	for the	control	and reassessed in
hyperactive			they were 12 –			major depression and	ADHD and	hyperactive	group	this paper when
children: Self-			20 years old.			several personality	ODD	group and	used	they were 19-25
reported						disorders, and that this	Symptoms	90% (73 of	here. Its	yo.
psychiatric			Evaluation 3 –			risk is largely mediated	in Young	81) for	relatively	•
disorders,			1992 when they			by severity of CD at	Adulthood	controls.	small size	QC
comorbidity,			were 19 – 25			adolescence		One control	may	1.1=A
and the role			years old.				Structured	participant	have led	1.2=A
of childhood						Detail: The H group had	Interview of	died of a	to	1.3=A
conduct			At childhood			a significantly higher	Antisocial	sudden	limitatio	1.4=YES
problems and			entry into the			risk for any non-drug	Behaviour	cardiac	ns on	1.5= 93% AND
teen CD.			study, all			psychiatric disorders		arrest	statistical	90%
Journal of			participants were			than the CC group (59%	Conners	before the	power	1.6=A
Abnormal			required to have			vs. 36%).	Parent Rating	adolescent	for	1.7=A
Child			an IQ greater			More of the H group	Scale—Revised	follow-up,	detecting	1.8=A
Psychology,			than 80 on the			met criteria for ADHD	(CPRS-R)	and another	small to	1.9= B
30(5), 463-			Peabody Picture			(5%); major depressive	Werry–Weiss–	died in a car	moderat	1.10=B
475.			Vocabulary Test			disorder (26%); and	Peters Activity	accident	e effect	1.11=A
			be free of gross			histrionic (12%),	Rating Scale	prior to this	sizes.	1.12=B
USA			sensory or motor			antisocial (21%),		follow-up.		1.13=A
			abnormalities,			passive-aggressive		One		1.14=YES
			and be the			(18%), and borderline		hyperactive		2.1 = (+)
			biological			personality disorders		participant		
			offspring of their			(14%) at follow-up than		committed		
			current mothers			the CC group. Severity		suicide prior		
			or have been			of childhood conduct		to this		
			adopted by them			problems contributed		follow-up.		
			shortly after			to the risk for passive-				
			birth.			aggressive, borderline,				
						and antisocial				
			All parents			personality disorders.				
			signed			But it only affected risk				
			statements of			for antisocial				
			informed consent			personality after				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Compariso n	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			for their own and their child's participation in the study. The gender composition was 91% male and 9% female. The racial composition was 94% White, 5% Black, and 1% Hispanic.			controlling for severity of teen conduct disorder (CD), which also contributed to the risk for these same 3 disorders. Examination for comorbidity among these disorders indicated that presence of either borderline or antisocial personality disorder significantly increased the risk for major depression and the other significant personality disorders. More of the hyperactive group had received various forms of mental health treatment during and since leaving high school than the control				
Widom, C.S., Czaja, S.J., & Paris, J. (2009). A prospective investigation of borderline personality disorder in abused and neglected	Prospective Cohort Study Level 3 Abused or neglected children were matched	N=1037 76% (n=1196) completed first interview 75% (n=896) completed	Documented cases of childhood physical and sexual abuse before the age of 11. Cases were drawn from the court system to	NA	NA	group. Summary: Significantly more abused children met criteria for BPD as adults (14.9% v 9.6%) (OR 1.65). Physical abuse and neglect elevated risk (2.09, 1.68). Sexual abuse did not elevate risk (OR 1.46). There was a significant	Structured interview adapted from DIPD-R (not clinical interview). Other psychiatric disorders DIS-III-R	First interview 1989-95 (29 yo) Second interview 2000-2002 (40 yo) data analysis on 2nd interview.	See outcome s column	Rates of BPD in the controls were higher than in the community. Last finding about parents divorced or separated not clear from the paper but stated in the conclusions.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Compariso n	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
children	with non-	second	include only			increased risk in men				QC
followed up	victimised	interview	serious cases.			(OR 2.14) but not				1.1=A
into	children on					women (OR 1.31).				1.2=A
adulthood.	age, sex,					Family characteristics				1.3=A
Journal of	ethnicity					such as parent arrest				1.4= YES
Personality	and social					(OR 1.74) and parent				1.5= 76% - 75%
Disorders,	class and					AOD problems (OR				1.6=B
23(5), 433-	followed up					2.67) mediated the				1.7=B
446.	into young					relationship.				1.8=D
	adulthood					Growing up in a family				1.9= E
Australia						on welfare (OR 1.43) or				1.10=E
						where parents were				1.11=E
						divorced or separated				1.12=E
						was not influential.				1.13=B
										1.14=YES
										2.1=(-)

Clinical Question 4. What preventative interventions are available to reduce the incidence of BPD? (as a primary or secondary outcome)

NICE Guideline summary

This was a new question – No NICE summary is available

Updated search

No papers that met the inclusion criteria were identified in the search.

Clinical Question 5. What interventions and care processes are effective in improving outcomes or altering the developmental course for people aged under 18 years with borderline symptoms or putative BPD? (that is, would meet diagnosis if over 18)

NICE Guideline summary

In relation to treatment for young people, the NICE guideline development committee asked the following clinical question: What interventions and care processes are effective in improving outcomes or altering the developmental course for people under the age of 18 years with borderline personality disorder or borderline symptoms? To address this question, the literature of adults with borderline personality disorder was scanned to ascertain whether any studies had been conducted with young people. One study was identified, of Cognitive Analytic Therapy (CAT) (Chanen, 2008), but there was no effect for CAT compared with manualised 'good practice' other than for reducing self-harm and general functioning. No study of a pharmacological intervention was identified in young people aged under 18 years. This is not surprising because not only does no drug have marketing authorisation for the treatment of people with borderline personality disorder, but also few psychotropic drugs have marketing authorisation for young people aged under 18 for any indication. In the absence of high-quality evidence, the NICE guideline development committee and its special advisors agreed that both the general principles and the recommendations for treatment for adults described elsewhere in this guideline could be applied to young people. Section 9 in the NICE guidelines outlines its findings on young people.

Updated search

Summary

Two papers were identified, one examining Cognitive Analytic Therapy (CAT) and one examining emotional regulation training. CAT showed some improvement over treatment as usual but emotional regulation training did not.

Evidence table

Country Des	udy esign/ vel of idence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
ackson, H.J., McCutcheon,K., Jovev, M., Dudgeon, P., 'uen, H.P.,	ortial quasi- perimental esign with storical hort control vel III-1	N=110 TAU=32 CAT=41 GCC=37	CAT participants same as Chanen et al. 2008 Fulfilled two to nine DSM–IV criteria for borderline personality disorder Age CAT=16.3yo GCC=16.6yo TAU=16.2yo Gender CAT 82.9% FM GCC 67.6% FM TAU 71.9% FM	Cognitive Analytic Therapy (CAT)	GCC as in Chanen et al 2008 Historical TAU	Summary: At 24 month follow up: (i) HYPE + CAT had lower standardized levels of, and a significantly faster standardized rate of improvement in, internalizing and externalizing psychopathology, compared with H-TAU; and (ii) HYPE + GCC had lower standardized levels of internalizing psychopathology and a faster rate of improvement in global functioning than H-TAU. HYPE + CAT yielded the greatest median improvement on the four continuous outcome measures over 24 months. No adverse effects were shown with any of the treatments.	Psychopathology (SCID–II borderline personality disorder dimensional score) Internalising and externalising psychopathology scores were derived from the Youth Self-Report (YSR) questionnaire or the Young Adult Self-Report (YASR) Parasuicidal behaviour was assessed by semistructured interview Global functioning was	24 months		Dropouts not analysed in this study of to 2008. TAU not randomised QC² 1.1=A 1.2=B 1.3=D 1.4=no 1.5=not stated 1.6=D 1.7=A 1.8=B 1.9= F 1.10=E 1.11=A 1.12=A 1.13: E 1.14=no confidence intervals IQR only 2.1 = (-)

² The cohort study checklist was used to assess this paper even though it was partially randomised

Country Desig Level Evide		N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
							Social and Occupational Functioning Assessment Scale (SOFAS).			reasonably well reported study, the design introduces significant bias
Schuppert, H.M., Giesen- Bloo, J., van Gemert, T.G., Wiersema, H.M., Minderaa, R.B., Emmelkamp, P.M.G., & Nauta, M.H. (2009). Effectiveness of an emotion regulation group training for adolescentsa randomized controlled pilot study. Psychology & Psychotherapy, 16(6), 467-478.	l II ock omisation	N=43 ERT+TAU = 23 TAU=20	Age ERT+TAU=16 .23yo TAU=15.9 Gender ERT+TAU=95 .6% FM TAU=80% FM	Emotion Regulation Training: 17 sessions, one systems meeting and two booster sessions. The main goal of the training is to introduce alternative ways of coping with affective instability, daily stressors and psychological vulnerability. Reducing self- harm or harm to others is another important issue. The adolescents learn that	Treatment as usual (TAU): medication, individual psychotherapy, system-based therapy, inpatient psychiatric care and emergency services in case of self-harm or suicidal behaviour.	Summary: Repeated measure ANOVAs indicate improvement over time, measured by the total score of the BPDSI-IV. The other primary outcome measures demonstrated no significant improvement over time. Detail: Repeated measure ANOVAs on the BPDSI-IV showed that there was no significant level of change between groups for both the total and the subscale affective stability of the BPDSI-IV (BPDSI-IV total score F [1,29] = 0.07; p = 0.79; BPDSI-IV subscale affect regulation F [1,29] = 0.24; p = 0.63).	BPDSI-IV to assess current severity and frequency of DSM-IV BPD symptoms. The Multidimensional Emotion Regulation Locus of Control (MERLC) The Youth Self Report (YSR)	Post treatm ent	BPDSI-IV total score = 0.27 BPDSI-IV affective stability=0. 33 MERLC subscale internal locus of control=49 YSR subscale internalizin g = 0.04 YSR subscale externalizin g = 0.15	Small sample size QC 1.1=A 1.2=A 1.3=A 1.4=A 1.5=A 1.6=A 1.7=A 1.8= 46 patients entered the study, 3 dropped out after assessment but before randomisatio n, 7 completed less than 7 sessions and 3 in TAU dropped out before second

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				responsibility for their behaviour and realize they have a choice in how to (re)act when emotionally distressed.		measure, we found a significant interaction effect on the adolescents' MERLC subscale internal locus of control (F [1, 24] = 9.16; p = 0.006). Adolescents in the ERT group reported an improvement in their feeling of having control over their emotions, whereas the adolescents in the TAU alone group reported a decrease of internal locus of control. The secondary outcome measures for the adolescents showed no significant effect between groups, measured by the YSR, internalizing and externalizing subscales (YSRintern F [1, 23] = 0.32; p = 0.58; YSRextern F [1, 24] = 0.06; p = 0.82).				completers only 1.10=E 2.1 = (+)

Clinical Question 6. For people with BPD, which treatments are associated with improvement in mental state and quality of life, reduction in self-harm, service use, and risk-related behaviour, and/or improved social and personal functioning while minimising harms?

NICE Guideline summary

The NICE guideline did not match questions with recommendations specifically. This question appears to be an umbrella question for NICE Questions 4a-c, so there is no specific NICE guideline summary.

Updated search

The findings for Q7, Q9, Q10 and Q11/13 were used to develop the summary for this question.

Summary

Caution is required in interpreting this summary as:

- a) there is a mix of pharmacotherapy and psychological therapy studies to answer this question
- b) there were only a few studies for each specific treatment, often multiple studies of the same treatment from the same research group
- c) these data are from the updated search from 2008-2011 only and the summary does not take into account previous work in the area. Some therapies that have been subject to RCT work earlier than others and the summary does not reflect that.

Mental state

In general psychotherapy appeared to have a positive effect on mental state, including anger, depression and anxiety. In many cases the treatment condition did only as well as the control condition, which was most commonly treatment as usual. Psychodynamic/analytic therapies, especially mentalisation, appeared more consistently to have a moderate to large impact on these measures than other therapies. A range of pharmacotherapies had moderate to large impacts on mental state measures, in particular mood stabilisers/anticonvulsants showed the most consistent responses. Antipsychotics showed mixed effects. Antidepressants had little effect on mental state except in the short term.

QoL

Relatively few studies specifically measured quality of life. Where QoL was measured, most psychological treatments improved quality of life, even those that did not have an impact on clinical measures. QoL was not generally reported in pharmacotherapy studies.

Self-harm and risk behaviours

Most treatments had an impact on suicide and self-harming behaviours, including treatment as usual or general psychiatric management. Mentalisation-based treatment appeared to have the greatest impact on these measures compared to control conditions. Many studies measured suicide and self-harm within measures of overall BPD symptoms and were not always reported separately. There is some evidence that olanzapine can increase self-harming behaviours.

Service utilisation

Relatively few studies specifically measured service utilisation. In general psychological treatments had an impact on hospital utilisation, reducing crisis utilisation and increasing use of/engagement in therapy.

Personal & social functioning

Studies measured included a number of different measures that might fit into this broad category. Most psychological therapies showed improved personal and social functioning, including treatment as usual-type conditions. Effects of pharmacotherapy on personal and social functioning were mixed and not consistent enough to draw conclusions.

Summary table

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
Bateman, A., & Fonagy, P. (2008). 8-year follow-up of patients treated for borderline personality disorder: Mentalization-based treatment versus treatment as usual. American Journal of Psychiatry, 165(5), 631-638. RCT Mentalization-based treatment (MBT) v. treatment as usual (TAU)	+	Fewer in MBT met BPD diagnostic criteria		Significant reduction in suicide attempts in MBT compared to TAU	Significant reduction in hospital visits compared to TAU Significant increase in receiving therapy in MBT group compared to control Significant reduction in antipsychotic medication and a similar but smaller effect for antidepressant and mood stabiliser	MBT superior in impulsivity and interpersonal functioning and showed greater improvements on employment and vocational measures
Bateman, A., & Fonagy, P. (2009). Randomized controlled trial of outpatient mentalization-based treatment versus structured clinical management for borderline personality disorder. American Journal of Psychiatry, 166(12), 1355-1364. RCT Mentalization-based treatment v. structured clinical management (SCM)	+	There was a large difference between groups for reduction in interpersonal distress, a moderate effect for symptom distress and more modest for depression		Frequency of self-harm behaviours had significantly steeper reduction in the MBT group compared with SCM Six-month periods free of suicidal behaviours, severe self-injurious behaviours, and hospitalization improved from 0% to 43% in the SCM group and to 73% in the mentalisation-based treatment (MBT) group.	Number of episodes of hospital admissions also declined in both MBT and SCM groups but a substantially greater reduction in the MBT than the SCM group	GAF increased substantially for both MBT and SCM groups over the 18-month period from 41 (95% CI=39.7–42.7) to 57 (95% CI=54.9–60.0) but the increase was rated as greater in the MBT group. There was a moderate effect for social adjustment problems

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
				behaviour in both		
				groups. The rate of		
				improvement was		
				significantly greater		
				in the MBT group		
Bellino, S., Rinaldi, C., Bogetto, F.	-	Fluoxetine and FI + clinical	Combined			Fluoxetine and FI +
(2010). Adaptation of interpersonal		management both	therapy was			clinical management
psychotherapy to borderline		alleviated symptoms of	significantly			both improved global
personality disorder: A comparison of		depression and improved	superior to			functioning
combined therapy and single		global functioning	medication-			Combined therapy was
pharmacotherapy. Canadian Journal of			only in			significantly superior to
Psychiatry, 55(2), 74-81.		Combined therapy was	improving			medication-only in
		superior to medication-only	social and			improving social and
RCT		in alleviating anxiety	psychologica			psychological
Flueoxetine +/- interpersonal		symptoms	I functioning			functioning (measured
psychotherapy		Combined therapy had	(measured			on QoL scale)
		significant effects on	on QoL			
		impulsivity, and affective	scale)			Combined therapy had
		instability which increased				significant effects on
		over time				interpersonal
						relationships which
						increased over time
Bellino, S., Paradiso, E., Bogetto, F.	-	MAOIs - may help with		Tiotixene,		
(2008). Efficacy and tolerability of		atypical depression, anger		Trifluoperazine,		
pharmacotherapies for borderline		and impulsivity independent		Haloperidol,		
personality disorder. CNS Drugs. 22(8),		of antidepressant effects		Olanzapine and		
671-92.		SSRIs - may help with		Aripiprazole		
		affective instability and		showed some		
SR		emotional dyscontrol		effect on suicidal		
		Lithium - some effect on		attempts		
		core pathology but can be				
		toxic and potentially fatal in				
		overdose				
		Carbamazepine may have				
		some effect on wide range				
		of symptoms including				

Reference	Quality	Mental state	QoL	Self-harm & risk behaviours	Service utilisation	Personal/social functioning
		impulsive aggressive behaviour and effective dysregulation Lamotrigine ³ showed highly significant improvement in anger was observed after 8 weeks of one trial Tiotixene, Trifluoperazine, Haloperidol, Olanzapine and Aripiprazole showed some effects on a range of symptoms: global symptoms, depression, anxiety, paranoid ideation, psychotic symptoms, obsessive symptoms, rejection sensitivity, impulsive aggression, chronic dysphoria		benaviours		Tunctioning
		Risperidone showed no effect on mental state measures.				
Bos, E.H., Van Wel, E.B., Appelo, M.T., & Verbraak, M.J. (2010). A randomized controlled trial of a Dutch version of systems training for emotional predictability and problem solving for borderline personality disorder. Journal of Nervous and Mental Disease, 198(4), 299-304	+	SCL-90 and BPD-40 symptom scores generally decreased from T1 to T3, and more so in the STEPPS group than in the TAU group	Overall Quality of Life and General Health, Physical Health, and Psychologica I Health showed	No difference between groups on suicide	STEPPS group received 15 STEPPS group sessions on average, and had a mean of 8 contacts with their individual therapist. TAU-patients had a mean of 9 individual contacts with their main therapist. In addition to these study treatment contacts, TAU-patients reported to have had 31 ambulatory therapy contacts on average with other mental health care workers (e.g.,	~

³ Lamotrigine and topiramate are anticonvulsants but also used as a mood stabiliser. They are reported under the category reported by the authors of the studies

Reference	Quality	Mental state	QoL	Self-harm & risk behaviours	Service utilisation	Personal/social functioning
STEPPS (Dutch version) v. Treatment as usual			greater improvemen t in STEPPS than TAU	benaviours	psychiatrists, psychologists, psychiatric nurses, social workers). Patients in the STEPPS condition had a mean of 21 additional ambulatory therapy contacts	tunctioning
Carter, G.L., Willcox, C.H., Lewin, T.J., Conrad, A.M., & Bendit, N. (2010). Hunter DBT project: Randomized controlled trial of dialectical behaviour therapy in women with borderline personality disorder. The Australian and New Zealand journal of psychiatry, (2), 162-173.	++	No statistically significant differences between modified DBT and waitlist control/TAU on mental state measures	Benefit of modified DBT on 3 of 4 quality of life domains	No benefit of modified DBT for self-harm	Trends towards modified DBT in reductions in hospitalisations, shorter lengths of stay, days in bed	
RCT DBT v waitlist/ treatment as usual						
Cottraux, J., Note, I.D., Boutitie, F., Milliery, M., Genouihlac, V., Yao, S.N., Note, B., Mollard, E., Bonasse, F., Gaillard, S., Djamoussian, D., De Mey Guillard, C., Culem, A. & Gueyffier, F. (2009). Cognitive Therapy versus Rogerian Supportive Therapy in Borderline Personality Disorder. Psychotherapy and Psychosomatics, 78, 307-316.	+	For measures of hopelessness and impulsivity, CT group were improved compared to the control group at the 24 week follow-up, and for general psychopathology CT was improved compared to the control group at 104 weeks.			'Treatment retention was better in the CT group than the control group.'	
Cognitive Therapy						
Rogerian Supportive Therapy			_			
Davidson, K. M., Tyrer, P., Norrie, J., Palmer, S. J., & Tyrer, H. (2010). Cognitive therapy v. Usual treatment for borderline personality disorder: Prospective 6-year follow-up. British Journal of Psychiatry, 197(6), 456-462. RCT Cognitive therapy v treatment as usual	++	For measures of depression, anxiety, general psychopathology there were no statistically significant differences between the groups during follow-up	For measures of social functioning, quality of life and dysfunctiona l attitudes, there were no statistically	The original positive treatment effect is maintained over an average of 6 yrs follow-up: a difference of 1.26 suicide attempts over the following 5 yrs	Use of hospital services remained high in both groups with about 54% of all individuals having received in-patient treatment and almost two-thirds having utilised accident and emergency (A&E) treatment during the follow-up period. With the exception of in-patient and A&E utilisation, no particularly large differences were observed between the treatment groups. However, the mean length of hospitalisation was markedly	For measures of social functioning, dysfunctional attitudes, there were no statistically significant differences between the groups during follow-up

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
			significant differences between the groups during follow-up	behaviours	lower in the CBT–PD group than for the TAU group (10.81 v. 60.97 days respectively). Although a similar proportion of patients in both groups attended A&E, both the mean and median number of attendances were higher in the TAU group.	functioning
Doering, S., Horz, S., Rentrop, M., Fischer-Kern, M., Schuster, P., Benecke, C., Buchheim, A., Martius, P., Buchheim, P. (2010). Transference-focused psychotherapy v. Treatment by community psychotherapists for borderline personality disorder: Randomised controlled trial. British Journal of Psychiatry, 196(5), 389-395 RCT Transference-focused psychotherapy v. Treatment by community psychotherapists	+	The manualised transference-focused psychotherapy group showed a significantly higher proportion of participants that fulfilled less than five DSM—IV diagnostic borderline criteria after 1 year and were not diagnosed BPD any more than treatment by experienced community psychotherapist The transference-focused psychotherapy group had significantly fewer DSM—IV diagnostic criteria and superior personality organisation		The transference- focused psychotherapy group showed significant reduction in suicide and self-harm attempts compared to control	The transference-focused psychotherapy group had significantly fewer and lower duration of psychiatric in-patient treatments	The transference-focused psychotherapy group had better psychosocial functioning
Duggan, C., Huband, N., Smailagic, N., Ferriter, M., Adams, C. (2008). The use of pharmacological treatments for people with personality disorder: A systematic review of randomized controlled trials. Personality and Mental Health, Jul; 2(3), 119-70.	++	Antipsychotics -reduction in cognitive perceptual and mental state disturbance Anticonvulsants - Reduction in aggression				
Farrell, J.M., Shaw, I.A., & Webber, M.A. (2009). A schema-focused approach to group psychotherapy for	+	On measures of general psychopathology and general functioning the ST				Social and personal functioning was significantly improved

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
outpatients with borderline		group improved significantly				in the control group but
personality disorder: a randomized		but the control group did				not in the control
controlled trial. Journal of behaviour		not.				group.
therapy and experimental psychiatry,						
40(2), 317-328.						
RCT						
Schema-focused						
Group psychotherapy	1	No seidones for effect or				No seidense fan effect
Ingenhoven, T., Lafay, P., Rinne, T.,	++	No evidence for effect on				No evidence for effect
Passchier, J., Duivenvoorden, H.		impulse control, depressed				on global functioning.
(2010) Effectiveness of		mood. Small effect on				Mood stabilisers - More
pharmacotherapy for severe		anxiety and anger				pronounced effect than
personality disorders: Meta-analyses		Vandana effect on				antipsychotics on global
of randomized controlled trials.		Very large effect on				functioning
Journal of Clinical Psychiatry. 71(1),		impulsive behavioural				
14-25.		dyscontrol, anger, anxiety.				
CD.		Moderate effect on				
SR	1.	depressed mood.				Dadwatian of
Kramer, U., Berger, T., Kolly, S.,	+					Reduction of
Marquet, P., Preisig, M., De Roten, Y.,						interpersonal problems
Despland, J.N., Caspar, F. (2011).						was larger in the Motive-oriented
Effects of motive-oriented therapeutic relationship in early-phase treatment						
of borderline personality disorder: A						therapeutic
pilot study of a randomized trial.						relationship (MOTR) condition than in the
Journal of Nervous and Mental						TAU condition
Disease, 199(4), 244-250.						TAO CONDITION
Disease, 199(4), 244-250.						
RCT						
TAU +/- motive-oriented therapeutic						
relationship						
Lieb, K., Vollm, B., Rucker, G., Timmer,	+	Little evidence for		Flupenthixol		Effects for valproate,
A., Stoffers, J.M. (2010).		effectiveness of		reduced suicidal		lamotrigine and
Pharmacotherapy for borderline		antidepressants		behaviour		topiramate but
personality disorder: Cochrane		Aripiprizole reduced BPD				not carbamazepine for
systematic review of randomised		pathology				interpersonal problems
trials. British Journal of Psychiatry,		Effects for valproate,				and impulsivity
196(1), 4-12.		lamotrigine and topiramate				
SR		but not carbamazepine for				

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
		depression, anger				
		Haloperidol reduced anger				
		Omega 3 fatty acids may				
		reduce depressive				
		symptoms but few studies				
Leiberich, P., Nickel, M.K., Tritt, K., &	+	Lamotrigine - significant		No serious side		
Gil, F.P. (2008). Lamotrigine treatment		reduction in anger and		effects but some		
of		aggression measured by the		adverse events		
aggression in female borderline		STAXI than placebo		during the trial:		
patients, part ii: An 18-month follow-				self-mutilation (LG),		
up.				attempted suicide		
Journal of Psychopharmacology, 22(7),				(placebo) and		
805-808.				weight loss (both)		
DOT						
RCT						
Lamotrigine v. placebo						11 11 1
Loew, T.H., & Nickel, M.K. (2008).	+	Topiramate - reduction in				Improved health and
Topiramate treatment of women with		aggressive behaviour,				activity related
borderline personality disorder, part ii:		anxiety and phobias,				measures
An open 18-month follow-up.		obsessiveness, depression,				
Journal of Clinical		paranoia, interpersonal				
Psychopharmacology, 28(3), 355-357.		problems, pain				
RCT		Improved affective				
Topiramate v. placebo		instability				
ropaacc tr p.accac		No effect on psychoticism				
McMain, S.F., Links, P.S., Gnam, W.H.,	++	Both groups reduced in BPD	No	Both groups	The utilization of non-study treatments	There was a significant
Guimond, T., Cardish, R.J., Korman, L.,		symptom severity, symptom	differences	reduced suicide	decreased significantly more in the DBT	reduction in
& Streiner, D.L. (2009). A randomized		distress and depression.	in health	responses and	group than in the general psychiatric	interpersonal problems
trial of dialectical behaviour therapy		There was a trend to	related	medical risk	management group	in both groups
versus general psychiatric		reduction of anger in both	quality of	significantly	1 10 1 10 11	0 110
management for borderline		groups	life but both		Both groups showed significant	
personality disorder. The American			groups		reductions in ED use and days in	
journal of psychiatry, (12), 1365-1374			improved		psychiatric hospital	
			significantly			
RCT			,			
DBT v general psychiatric						
management						
•	Ī					1

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
Mercer, D., Douglass, A.B., Links, P.S. (2009) Meta-analyses of mood	+	Antidepressants moderately effective for short term				
stabilizers, antidepressants and		reduction of depression				
antipsychotics in the treatment of		reduction of depression				
borderline personality disorder:		Mood stabilisers highly				
Effectiveness for depression and anger		effective for anger,				
symptoms. J Personal Disord. 23(2),		moderately effective for				
156-74.		depressed mood				
SR		Antipsychotics moderate				
		effect on anger, depression.				
		Some evidence that				
		haloperidol may worsen depression				
Morey, L.C., Lowmaster, S.E., &	+	Reduction in both		Reduction in both		
Hopwood, C.J. (2010). A pilot study of		conditions on BPD		conditions on		
manual-assisted cognitive therapy		symptoms among those that		suicide and self-		
with a therapeutic assessment		completed treatment,		harm among those		
augmentation for borderline		especially affective		that completed		
personality disorder. Psychiatry Research, 178(3), 531-535.		instability		treatment		
Research, 170(5), 351-353.						
RCT						
Cognitive therapy +/- therapeutic						
assessment						
Schuppert, H., Giesen-Bloo, J., van	-	BPD symptoms improved				Improvement in internal locus of control
Gemert, T.G., Wiersema, H.M., Minderaa, R.B., Emmelkamp, P.M., &		over time in emotional regulation training group				in ERT group
Nauta, M.H. (2009). Effectiveness of						III LIKT group
an emotion regulation group training						
for adolescentsA randomized						
controlled pilot study. Clinical						
Psychology & Psychotherapy, 16(6),						
467-478.						
RCT						
Emotion regulation group training v.						
Treatment as usual			Ì			

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
Shafti, S.S., & Shahveisi, B. (2010). Olanzapine versus haloperidol in the management of borderline personality disorder: A randomized double-blind trial. Journal of Clinical Psychopharmacology, 30(1): 44-7 RCT Olanzapine v. haloperidol Soler, J., Pascual, J.C., Tiana, T., Cebria, A., Barrachina, J., Campins, M.J., Perez, V. (2009). Dialectical behaviour therapy skills training compared to standard group therapy in borderline personality disorder: A 3-month randomised controlled clinical trial. Behaviour Research and Therapy, 47(5), 353-358.	+	Both olanzapine and haloperidol improved but no difference between them (no placebo control group) on anxiety, tension, depressive mood, and hostility. DBT-ST group showed a greater decrease in depression, anxiety and general psychiatric symptoms compared with the SGT group, significant improvement in the psychoticism subscale, and in the BDI irritability			No difference between groups in emergency department visits	-
RCT DBT skills training v standard group therapy		subscale in DBT group. Both treatment conditions showed significant reductions in CGI-BPD global severity scores but no difference between groups and specific subscales significantly favoured DBT group (anger, emptiness, and affect instability)				
Stoffers, J., Völlm, B.A., Rücker, G., Timmer, A., Huband, N., Lieb, K. (2010) Pharmacological interventions for borderline personality disorder. Cochrane Database of Systematic Reviews. 16(6)	++	Little evidence for effectiveness. May help for comorbidity		Olanzapine may increase self-harming		Olanzapine may increase weight gain
Varghese, B.S., Rajeev, A., Norrish, M., Khusaiby, S.B. (2010) Topiramate for anger control: A systematic review.	+	Topiramate resulted in reduction in state anger, anger out, hostility, anger in				31

Reference	Quality	Mental state	QoL	Self-harm & risk behaviours	Service utilisation	Personal/social functioning
Indian Journal of Pharmacology 42(3), 135-41.		but not trait anger				
SR						
Zanarini, M.C., & Frankenburg, R. (2008). A preliminary, randomized trial of psychoeducation for women with borderline personality disorder. Journal of Personality Disorders, 22(3), 284-290	+	Declines in general impulsivity were found to be significantly greater among those in the immediate treatment group than the waitlist				Declines in interpersonal storminess were found to be significantly greater among those in the immediate treatment group than
RCT Psychoeducation v. waitlist control						the waitlist

Summary Table: Question 6 Checklist

Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
			behaviours		functioning
+	✓		✓	✓	✓
+	✓		✓	√	√
-	✓	✓			✓
-	✓		✓		
+	✓	✓	✓	✓	✓
++	✓	✓	✓	✓	
+	✓			✓	
++	✓	✓	✓	✓	✓
	+ + + + + +	+	+	behaviours	behaviours

Reference	Quality	Mental state	QoL	Self-harm & risk	Service utilisation	Personal/social
				behaviours		functioning
Doering, S. (2008).	+	✓		✓	✓	√
Duggan, C. (2008).	++	✓				
Farrell, J.M. (2009).		✓				√
Ingenhoven, T. (2010).	++	✓				√
Kramer, U. (2011).	+					√
Lieb, K. (2010).	+	✓		√		✓
Leiberich, P. (2008).	+	✓		✓		
Loew, T.H. (2008).	+	✓				√
McMain, S.F. (2009).	++	✓	✓	✓	✓	✓
Mercer, D. (2009).	+	✓				
Morey, L.C. (2010).	+	✓		✓		
Schuppert, H. (2009).	-	✓				√
Shafti, S. (2010).	+	✓				
Soler, J. (2009).	+	✓		✓	✓	
Stoffers, J. (2010).	++	✓		√		√
Varghese, B.S. (2010).	+	√				√
Zanarini, M.C. (2008).	+	✓				✓

Updated search

Notes: Studies that address this question are included in Q7-9 and repeated here by outcome. Studies that potentially answer this question but are related to specific populations (i.e., those with co-occurring conditions) are detailed in Q11 and 13 evidence tables. A summary of the evidence for this table is available in a separate document.

Evidence tables

Mental State

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis							
			Other							
Bateman, A.	RCT	N=41	Age and	Partial	Treatment as	Summary: MBT had a	Primary:	2 yrs	Suicide attempts	QC
& Fonagy, P.	Level II		gender not	hospitalisation	usual (TAU)	greater effect than	Number of		total, d= 1.4 (0.3,	1.1=A
(2008). 8-		T=22	reported.	consisting of a	consists of	TAU on clinical	suicide		1.5)	1.2=B
year follow-	RCT (8 yrs			long-term	general	symptoms, suicide	attempts over		Zanarini Rating	1.3=B
up of	since	C= 19	Diagnosis:	psychoanalytic	psychiatric	and risk behaviours,	the whole of		Scale (ZRS) for	1.4=B
patients	interventio		BPD on both	ally orientated	outpatient care	service utilisation	the 5 year post-		BPD:	1.5=B
treated for	n follow-		Structured	treatment for	with medication	and general	discharge		total: d = 1.8	1.6=A
borderline	up –		Clinical	18 months.	prescribed by	functioning	follow-up		(0.14, 3.5), affect:	1.7=A
personality	reporting		Interview for	Metalization	the consultant		period.		d = 1.1 (0.41, 1.7),	1.8= 0%
disorder:	occurrence		DSM-III-R and	based	psychiatrist,	Detail: 23% made	Associated		cognitive: d=0.84	and 18%
Mentalizatio	s since the		Diagnostic	treatment	community	suicide attempts in	outcomes were		(0.3, 1.4),	1.9= C
n-based	3 year		Interview for	(MBT)	support from	the MBT group	service use,		impulsivity: d =	1.10=F
treatment	follow-up).		Borderline	individual and	mental health	(mean attempts	including		1.2 (0.59, 1.9),	2.1 = (+)
versus			Patients.	group	nurses, and	0.5±0.9), contrasted	emergency		interpersonal: d =	
treatment				therapy.	periods of	with 74% of the TAU	room visits; the		1.6 (1, 2.3), GAF,	
as usual.			Exclusion: If		partial hospital	group (mean	length and		d = 0.75 (-1.9,	
American			they met	MBT by partial	and inpatient	attempts 0.52 ±	frequency of		3.4).	
Journal of			criteria for	hospitalization	treatment as	0.48), which was	hospitalization;		No. of days of	
Psychiatry,			schizophrenia,	consists of 18-	necessary but	significant.	continuing		hospitalisation, d	
165(5), 631-			bipolar,	month	no specialist	Mean number of	outpatient		=1.5 (0.36, 2.7).	
638.			substance	individual and	psychotherapy.	emergency room	psychiatric care;		No. of emergency	
			misuse or	group		visits and hospital	and use of		room visits, d	
(follow up			mental	psychotherapy		days highly	medication,		=1.4 (0.21, 2.63).	
from			impairment or	in a partial		significantly favoured	psychological		No. of yrs of	
Bateman, A.			had evidence	hospital		the MBT group, as	therapies, and		employment, d =	
& Fonagy, P.			of organics	setting		did the continuing	community		0.94 (0.29, 1.6).	
(1999).			brain disorder.	offered within		treatment profile.	support.		No. of yrs	
Effectivenes				a structured		During MBT group	Secondary:		psychiatric	
s of partial				and integrated		therapy, all of the	1) symptom		outpatient	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
hospitalizati				program		experimental group	status as		treatment, d =	
on in the				provided by a		but only 31% of the	assessed at a		0.93 (-4, 1.5).	
treatment				supervised		treatment as usual	follow-up		No. of yrs further	
of				team.		group received	interview using		therapy 36	
borderline				Expressive		therapy.	the Zanarini		months post-	
personality				therapy using		Over the 5-year post	Rating Scale for		intake, d = 0.07	
disorder: a				art and writing		discharge period,	DSM-IV		(-0.23, 0.37).	
randomized				groups is		both groups received	borderline		No. of yrs further	
controlled				included.		around 6 months of	personality		assertive	
trial. Am J				Crises are		psychological therapy	disorder		outreach	
Psychiatry.				managed		(n.s.).	2) global		treatment, d=1.8	
156:1563-				within the		For all other	functioning as		(1.4, 2.2).	
1569)				team;		treatments, the TAU	measured by		Medication (yrs)	
,				medication is		group received	the Global		antidepressants,	
				prescribed		significantly more	Assessment of		d= 1.1 (0.45, 1.7).	
				according to		input post	Functioning		Medication (yrs)	
				protocol by a		discharge—3.6 yrs of	Scale (GAF) at 6-		antipsychotics, d=	
				psychiatrist		psychiatric	month intervals		2.04 (1.6, 2.5).	
				working in the		outpatient treatment	after 18 months		Medication (yrs)	
				therapy		and 2.7 yrs of	of MBT by		mood stabilisers,	
				program.		assertive community	partial		d=1.17 (0.73, 1.6).	
				The focus of		support, compared	hospitalization:		Medication (yrs)	
				therapy is on		with 2 yrs and 5	TX profiles		three or more	
				the patient's		months, respectively,	(emergency		drugs, d= 1.45	
				moment-to-		for the MBT group.	room visits,		(1.1, 1.8).	
				moment state		The TAU group had	hospitalization,		(===, ===,	
				of mind. The		an average of over 3	psychiatric			
				patient and		yrs taking	outpatients,			
				therapist		antipsychotic	community			
				collaboratively		medication, whereas	support,			
				try to		the MBT group had	psychotherapy,			
				generate		less than 2 months.	medication) and			
				alternative		Smaller but still	suicidality and			
				perspectives		substantial	self-harm using			
				to the		differences were	criteria defined			
				patient's		apparent in	in the original			
				subjective		antidepressant and	trial for each			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				experience of		mood stabilizer use.	patient by			
				himself or		The TAU group spent	interview and			
				herself and		nearly 2 yrs taking	scrutiny of			
				others by		three or more	medical			
				moving from		psychoactive	records.			
				validating and		medications,	Collected data			
				supportive		compared to an	twice yearly on			
				interventions		average of 2 months	vocational			
				to exploring		for the MBT group.	status,			
				the therapy		At the end of the	calculating the			
				relationship		follow-up period,	number of 6-			
				itself as it		13% of the MBT	month periods			
				suggests		patients met	in which the			
				alternative		diagnostic criteria for	patient was			
				understanding		BPD, compared with	employed or			
						87% of the TAU	attended an			
						group.	educational			
						The contrast	program for			
						between mean total	more than 3			
						scores for the	months.			
						Zanarini Rating Scale	Patients recall			
						for BPD yielded a	for self-harm			
						large effect size	was unreliable			
						favouring the MBT	and could not			
						group, albeit with a	be			
						wide confidence	independently			
						interval.	corroborated			
						Multivariate analysis	from medical			
						of variance across	records and so			
						the four symptom	is not reported.			
						clusters also	The authors			
						reflected the better	consider the			
						outcome for the MBT	frequency of			
						group (Wilks's	emergency			
						lambda=0.55, F=6.4,	room visits to			
						df=4, 32, p=0.001).	be a reasonable			
						The largest	proxy of severe			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						differences favouring MBT were in terms of impulsivity and interpersonal functioning. There was over a 6-point difference in the GAF scores between the two groups, yielding a clinically significant moderate effect size of 0.8 (95% CI=-1.9 to 3.4). 46% of MBT group compared to 11% of the TAU group had GAF scores above 60. Vocational status favoured the MBT group, who were employed for nearly three times as long as the TAU group. There was increase in the % of MBT groups employment or	self-harm in this population.			
						education in the three post discharge periods.				
Bateman, A. & Fonagy, P. (2009). Randomized	Level II	N=134 MBT n= 71	Age mean (SD) TX= 31.3 (7.6) C=30.9 (7.9)	Mentalization- based treatment (MBT) is	Protocol-driven treatment, structured clinical	Summary: This study suggests that structured, integrated	Primary outcome: proportion of each group	18 months Assessed at entry and over the	Life-threatening suicide attempts, d = 0.65 (0.58, 0.73)	Very good description of factors similar
controlled trial of outpatient		SCM n= 63	Female (n, %) TX= 57, 80.3% C= 50, 79.4%	manualized, consisting of 18 months of	management (SCM), in an outpatient	psychological and psychiatric treatment offering coordinated	without severe parasuicidal behaviour as	course of an 18-month treatment at	Severe self-harm attempts, d =	between groups and randomisati

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
mentalizatio				weekly com-	context	clinical management	indicated by 1)	6, 12, and 18	0.62 (0.28, 0.97)	on
n-based			Diagnosis - All	bined	representing	recommended by	suicide attempt,	months.		procedures.
treatment			participants	individual and	best current	NICE significantly	2) life-		Interpersonal	
versus			were assessed	group	clinical practice.	benefits patients	threatening		distress, d = 0.95	QC
structured			using the	psychotherapy	Practitioners	with BPD. Both	self-harm, or 3)		(0.59, 1.3)	1.1=A
clinical			Structured	provided by	received	conditions were	hospital			1.2=A
managemen			Clinical	two different	equivalent	associated with	admission.		Social adjustment	1.3=B
t for			Interview for	therapists.	supervision.	substantially reduced	Hospital		problems, d =	1.4=F
borderline			DSM-IV (SCID-I	MBT is a	Crisis plans	suicidality, self-harm,	admission was		0.72 (0.37, 1.06)	1.5=A
personality			and SCID-II).	psychodynami	were developed	and hospitalization	included			1.6=A
disorder.				c treatment	collaboratively	and improvement on	because		Symptom	1.7=A
American			Ethnicity -	rooted in at-	within each	measures of	patients are		distress, d = 0.67	1.8= 0%
Journal of			White	tachment and	treatment team	symptoms and social	primarily		(0.33, 1.02)	1.9= A
Psychiatry,			British/Europe	cognitive	for all patients.	and interpersonal	offered			1.10=F
166(12),			an	theory. It	SCM therapists	functioning by the	inpatient care in		Depression, d =	2.1 = (+)
1355-1364.			MBT: 76.1%,	requires	focused on	end of treatment.	anticipation of		0.45 (0.1, 0.79)	
			SCM: 68.3%;	limited train-	support and	The rate of	suicide			
UK			Black	ing with	problem	improvement in both	attempts and		Hospital	
			African/Afro-	moderate	solving.	groups was higher	severe self-		admissions,	
			Caribbean	levels of	_	than spontaneous	harm		suicidal and self-	
			MBT: 15.5%,	supervision		remission of			injurious	
			20.6%	for implemen-		symptoms of BPD.	Secondary		episodes, d =	
			Other	tation by		Although patients in	outcome: were		-0.72 (-1.07,	
			Chinese/Turki	generic		both groups made	independently		-0.37)	
			sh Pakistani	mental health		statistically	rated Global			
			8.5%, 11.1%	professionals.		significant	Assessment of		Length of	
				It aims to		improvements, MBT	Functioning		hospitalisation,	
			Inclusion	strengthen		was associated with	(GAF) scores at		d = -0.43, (-0.78,	
			criteria were	patients'		greater	the beginning		-0.09)	
			1) diagnosis of	capacity to		improvements than	and end of			
			BPD, 2) suicide	understand		SCM for most	treatment and		Medication use,	
			attempt or	their own and		outcomes.	self-reported		d= -0.58, (-0.93,	
			episode of	others' mental			psychiatric		-0.24)	
			life-threaten-	states in		Detail:	symptoms,			
			ing self-harm	attachment		Suicidal behaviour:	social and		Psychiatric	
			within last 6	contexts in		Six-month periods	interpersonal		hospitalisation,	
			months, and	order to		free of suicidal	functioning, and		d= -0.53, (-0.88,	

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
,	Level of		Gender						5.25	
	Evidence		Diagnosis							
			Other							
			3) age 18–65.	address their		behaviours, severe	medication use		-0.19)	
				difficulties		self-injurious	assessed at			
			Exclusion	with affect,		behaviours, and	baseline and at			
			criteria were	impulse		hospitalization	6-month			
			kept to a	regulation,		improved from 0% to	intervals until			
			minimum.	and		43% in the SCM	the end of			
			Patients were	interpersonal		group and to 73% in	treatment at 18			
			excluded if	functioning,		the MBT group;	months.			
			they currently	which act as		behaviour increased				
			1) were in	triggers for		in patients assigned	Patients'			
			long-term	acts of suicide		to MBT more than	subjective			
			psychotherap	and self-harm.		for patients in the	experience of			
			eutic	Crisis plans		SCM group, however,	symptoms was			
			treatment, 2)	were		differences only	measured using			
			met DSM-IV	developed		became statistically	the SCL-90-R,			
			criteria for	collaboratively		significant after 12	and depression			
			psychotic	within each		months of treatment.	was assessed by			
			disorder or	treatment			using the Beck			
			bipolar I	team for all		Number of episodes	Depression			
			disorder, 3)	patients. MBT		of hospital	Inventory.			
			had opiate	therapists		admissions, suicide	Social			
			dependence	focused on		attempts, and severe	adjustment and			
			requiring	helping		self-injuries) also	interpersonal			
			specialist	patients		declined in both	functioning			
			treatment, or	reinstate		groups but a	were measured			
			4) had mental	mentalising		substantially greater	using the			
			impairment or	during a crisis		reduction in the MBT	modified Social			
			evidence of	via telephone		than the SCM group.	Adjustment			
			organic brain	contact.		Data were relatively	Scale-self-			
			disorder.			consistent and	report and the			
						showed reduced	Inventory of			
			Current			suicidal behaviour in	Interpersonal			
			psychiatric			both groups. The rate	Problems-			
			inpatient			of improvement was	circumflex			
			treatment,			significantly greater	version.			
			temporary			in the MBT group				
			residence,			both in terms of any				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			drug/alcohol			suicide attempt and				
			misuse, and			the count data				
			comorbid			associated with it.				
			personality			Differences between				
			disorder were			groups only became				
			not exclusion			marked in the last 6				
			criteria.			months of treatment;				
						at 12 months, groups				
						were not significantly				
						different.				
						Self-harm: Frequency				
						of self-harm				
						behaviours had				
						significantly steeper				
						reduction in the MBT				
						group compared with				
						SCM.				
						During the 6 months				
						before end of				
						treatment fewer				
						patients in the MBT				
						group severely self-				
						harmed (24% vs 43%,				
						c2=4.6, p<0.05;				
						relative risk=0.55,				
						95% CI=0.33-0.92).				
						However, during the				
						first 6 months of tx,				
						comparison of the				
						proportion of				
						individuals				
						manifesting self-				
						injurious behaviour				
						favoured the SCM				
						group (75% versus				
						59%, c2=3.1, p<0.08;				
						relative risk=1.27,				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
						95% CI=0.99-1.63).				
						From 6 to 18 months				
						the proportion of				
						these patients in the				
						MBT group who self-				
						harmed showed a				
						steeper decline when				
						compared with the				
						SCM group.				
						The more consistent				
						reduction in the				
						counts of self-				
						injurious behaviour				
						and the difference in				
						incidence rate ratios				
						favouring MBT was				
						highly statistically				
						significant.				
						Hospitalisation:				
						Before treatment				
						about 25% of each				
						group had had at				
						least one hospital				
						admission. During				
						the first 6 months of				
						treatment patients in				
						the MBT group had				
						significantly fewer				
						days in hospital				
						(Kruskal-Wallis				
						c2=4.25, p<0.04), and				
						the difference				
						increased by 12				
						months (Kruskal-				
						Wallis c2=6.54,				
						p<0.02) and 18				
						months (Kruskal-				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			Wallis c2=9.01, p<0.003). The decline in number of admissions over the whole period of treatment was significantly steeper in the MBT group. The number of patients hospitalized reduced in the MBT group relative to the SCM group and was markedly lower in the MBT group in the last 6 months of treatment (c2=7.7,				
						p<0.005; relative risk=0.14, 95% CI=0.3–0.64). Secondary outcomes: GAF increased substantially for both groups over the 18-month period from 41 (95% CI=39.7–42.7) to 57 (95% CI=54.9–60.0) (t=15.5, df=125, p<0.0001) but the increase was rated as greater in the MBT group. There was				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			improvement on all				
						self-rated measures				
						for both groups. This				
						was particularly				
						notable for				
						symptoms of depres-				
						sion and social				
						adjustment. The				
						slope of decline in				
						self-reported				
						symptoms and				
						relationship and				
						social adjustment				
						problems was				
						significantly greater				
						in the MBT group				
						across all four				
						measures.				
						The size of difference				
						between the two				
						groups at the end of				
						treatment was				
						substantial for				
						reduction in				
						interpersonal distress				
						(d=0.95, 95%				
						CI=0.59-1.3),				
						moderate for social				
						adjustment problems				
						(d=0.72, 95%				
						CI=0.37–1.06) and				
						symptom distress				
						(d=0.67, 95%				
						CI=0.33–1.02), and				
						more modest for				
						depression (d=0.45,				
						95% CI=0.10-0.79).				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						Medication: use of				
						medication reduced				
						significantly in both				
						groups. The propor-				
						tion of patients not				
						receiving medication				
						increased from 27%				
						to 57%. The increase				
						was greater for the				
						MBT group. Counting				
						the number of				
						classes of				
						psychotropic				
						medication also				
						showed a decline				
						across both groups				
						with the incidence				
						rate ratio suggesting				
						a significant				
						difference in favour				
						of the MBT group.				
						The number of				
						people receiving two				
						or more different				
						classes of medication				
						substantially reduced				
						in both groups from				
						30% at the beginning				
						of treatment to 8% at				
						the end of treatment.				
Bellino, S.,	SR	N = 27	1) Efficacy and	1)Efficacy and	Varied by study	Summary: MAOIs -	No outcome	Not stated	Not reported	Not very
Paradiso, E.,			Tolerability of	Tolerability of		may help with	measures			clear SR,
Bogetto, F.		These are	Antidepressan	Antidepressan		atypical depression,	stated			methods
(2008)		reviewed	t Agents	t Agents		anger and impulsivity				are vague
Efficacy and		for three	ADs - MAOIs,	MAOIs - 3		independent of				and little
tolerability		TX	Tricyclic and	studies		antidepressant				detail is
of		interventio	Heterocyclic	Tricyclic and		effects				given

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
pharmacoth		ns:	ADs and SSRIs	Heterocyclic		Tricyclics - modest				clearly in
erapies for			-8 studies	Ads – 2		effect and high				results, the
borderline		1) ADs,	were	studies		potential for harm				tables lack
personality			included: TX	SSRIs – 4		SSRIs - may help				detail, the
disorder.		2) Mood	length ranged	studies		with affective				review is
CNS Drugs.		stabilizers	from 5 – 14	2) Efficacy and		instability and				more
22(8), 671-			weeks,	Tolerability of		emotional dyscontrol				descriptive.
92.		3) APs	number of	Mood		Lithium - some effect				Studies
			participants	Stabilizers		on core pathology				have small
Italy			ranged from	Lithium – 1		but can be toxic and				sample
,			10 – 108.	study		potentially fatal in				sizes and
			2) Efficacy and	Carbamazepin		overdose				short
			Tolerability of	e – 2 studies		Carbamazepine -				durations
			Mood	Oxcarbazepin		Some effect on wide				and high
			Stabilizers	e – 0 studies		range of symptoms				drop outs.
			MS – Lithium,	Valproate		including impulsive				Heterogene
			Carbamazepin	semisodium –		aggressive behaviour				ity of
			e, Valproate	3 studies		and effective				selection
			semisodium	Lamotrigine –		dysregulation				criteria and
			and	1 study		Lamotrigine - highly				outcome
			Lamotrigine –	3) Efficacy and		significant				measures
			7 studies were	Tolerability of		improvement in				(no detail).
			included: TX	Antipsychotics		anger was observed				
			length ranged	First		after 8 weeks of one				QC
			from 6– 12	generation		trial				1.1 =A
			weeks,	antipsychotics		Tiotixene,				1.2 =D
			number of	Tiotixene – 2		Trifluoperazine,				1.3 =C
			participants	studies		Haloperidol,				1.4 =D
			ranged from	Trifluoperazin		Olanzapine,				1.5 =B
			10 – 52. Some	e – 1 study		Aripiprazole showed				2.1 (-)
			inpatients and	Haloperidol –		some effects on				
			outpatients.	2 studies		global symptoms,				
			3) Efficacy and	Atypical		depression, anxiety,				
			Tolerability of	antipsychotics		paranoid ideation,				
			Antipsychotics	Risperidone –		psychotic symptoms,				
1			APs – First	1 study		obsessive symptoms,				
			generation	Olanzapine – 4		rejection sensitivity,				

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis Other							
			and atypical	studies		suicidal attempts,				
			AP - 11	Ariprazole – 1		impulsive aggression,				
			studies were	study		chronic dysphoria				
			included: TX			Risperidone – no				
			length ranged			effect				
			from 6 – 12							
			weeks,			Detail:				
			number of			Antidepressant				
			participants			Agents				
			ranged from			MAOIs - can useful in				
			16 -108.			treating BPD with				
						main effective on				
						symptoms of atypical				
						depression, anger				
						and impulsivity. The effects are				
						considered to be				
						independent of the				
						anti-depressive				
						action of these drugs.				
						Tricyclic and				
						Heterocyclic Ads –				
						response to TCAs in				
						patients with BPD				
						appears modest. The				
						risk of behavioural				
						toxicity and potential				
						lethality of TCAs in				
						overdose support the				
						use of SSRIs or other				
						ADs.				
						SSRIs – (in particular				
						fluoxetine and				
						fluvoxamine) were				
						found to be				
						efficacious in treating				
						BPD. The effectivess				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			of the drugs				
						concerned symptoms				
						of effective instability				
						(depression, anxiety				
						and anger), impulsive				
						dyscontrol (verbal				
						aggression and				
						aggression against				
						objects). Risk of				
						toxicity is lower.				
						Mood Stabilizers				
						Lithium – one				
						crossover study				
						showed efficacy of				
						lithium on core				
						features of BPD but				
						was small study, 10				
						participants for 6				
						weeks. Lithium can				
						be toxic. Can be fatal				
						in overdose so				
						caution with suicide				
						risk is advised.				
						Carbamazepine –				
						Limited data –				
						Suggestion of				
						effectiveness of				
						carbamazepine on				
						wide range of				
						symptoms, including				
						impulsive aggressive				
						behaviour and				
						effective				
						dysregulation. One				
						study reported link to				
						melancholic				
						depression.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			- Cuilei			Oxcarbazepine – No				
						RCTs reported.				
						Valproate				
						semisodium –				
						Limited data – only				
						open label studies.				
						Some success with				
						impulse aggression.				
						Potential dose				
						related effects.				
						Lamotrigine – Limited				
						data – A highly				
						significant				
						improvement in				
						anger was observed				
						after 8 weeks of one				
						trial.				
						Antipsychotics - First				
						generation				
						antipsychotics				
						Tiotixene – 2 studies				
						- Reduction in global				
						symptomatology,				
						depression, anxiety				
						and paranoid				
						ideation, reduction in				
						psychotic symptoms,				
						obsessive symptoms				
						Trifluoperazine –				
						reduction in				
						depression, anxiety,				
						and rejection				
						sensitivity and				
						reduction in suicidal				
						attempts vs. placebo				
						Haloperidol –				
						Reduction in global				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						symptomatology, depression, anxiety and paranoid ideation, reduction in psychotic symptoms, obsessive symptoms Antipsychotics- Atypical antipsychotics Risperidone – no significant difference Olanzapine – reduction in impulsive aggression, chronic dysphoria, reduction in anxiety, paranoia and global symptomatology. Aripiprazole – reduction in global psychopathology, depression and anxiety.				
Bellino, S., Rinaldi, C., Bogetto, F. (2010) Adaptation of interperson al psychothera py to borderline personality disorder: A comparison	RCT Level II	N= 55 enrolled n=44 analysed	Participants = 55 (18 male, 37 female) with DSM-IV-TR diagnosis of BPD were recruited from patients attending the Service for Personality Disorder of the Unit of Psychiatry,	28 patients received fluoxetine 20 mg to 40 mg daily (see control group for schedule) plus IPT-BPD. IPT-DBT consisted of weekly, manualised sessions lasting 1 hour.	27 patients received fluoxetine 20 mg to 40 mg daily plus clinical management consisting of a fortnightly clinical review of 15-20 minutes duration. Initially,	Summary: Small sample size limits ability to draw strong conclusions but results suggest that combined therapy was superior to monotherapy in relieving anxiety, improving functioning and alleviating the severity of some symptoms of BPD	Depression (Hamilton Depression Rating Scale) Anxiety (Hamilton Anxiety Rating Scale) Quality of life (SAT-P satisfaction profile)	Treatment lasted 32 weeks.	Not reported	No Intention to treat analysis – only analysed data for completers (i.e. 44 of 55 enrolled) and potential attrition

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
of combined therapy and single pharmacoth erapy. Canadian Journal of Psychiatry. 55(2), 74-81. Italy			Other Dept. of Neuroscience, University of Turin. Mean age of 25.8 yrs in medication- only group and 26.2 yrs in combined therapy group; 62% previous hospitalization s; 27% employed; 31% married. Excluded were those with a lifetime diagnosis of delirium, dementia, amnestic or other cognitive disorders, schizophrenia or other psychotic disorders, and	Patients in the combined therapy group were treated by a psychotherapi st who was not the psychiatrist prescribing the medication and who had 5 yrs of experience practising IPT. The psychotherapy and the pharmacother apy started at the same time.	fluoxetine was prescribed at a fixed dosage of 20 mg daily with the opportunity to increase the dosage to 40 mg daily beginning in week 2, depending on clinical judgment. Treatment lasted 32 weeks.	during the 32 weeks of the trial. Detail: Of 55 subjects, 11 (20%) dropped out (6 in medication-only, 5 in combined therapy). Only treatment completers (n=44) were included in the analysis. Using a univariate General Linear Model to calculate the effects of 1) duration of treatment and 2) the type of treatment on each assessment scale score, only duration of treatment had a statistically significant effect on global functioning, depressive symptoms and social and occupational functioning (p=<0.001), while both treatments alleviated symptoms of depression and improved global	Global functioning (CGI Clinical Global Impression Scale) Social and occupational functioning (SOFAS) BPD symptoms severity and frequency (BPD-SI)			bias due to lack of compliance was not addressed. Combined therapy was not compared with IPT alone. QC 1.1=A 1.2=C 1.3=B 1.4=D 1.5=B 1.6=B 1.7=B 1.8= 20% 1.9=D 1.10=F 2.1 = (-)
			bipolar disorder. Concomitant Axis I or II			functioning. Combined therapy was superior to medication-only in				

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Country	Level of		Gender					Tollow-up	Size	
	Evidence		Diagnosis							
	Evidence		Other							
			disorders			alleviating anxiety				
			were also			symptoms				
			excluded.			(p=<0.001).				
			Female			Combined therapy				
			patients of			was significantly				
			childbearing			superior to				
			age were			medication-only in				
			excluded if			improving				
			they were not			psychological				
			using an			functioning				
			adequate			(p=0.003).				
			method of			The interaction				
			birth control,			between combined				
			as were those			therapy and				
			who had			treatment duration				
			recently			was superior to				
			received			medication-only in				
			psychotherapy			improving social				
			or			functioning as				
			pharmacother			measured by the				
			apy, and			SAT-P for subjective				
			current			quality of life				
			substance			(p=0.03).				
			abusers.			Only duration of				
						therapy had an effect				
						on the BPD-SI total				
						score (p=<0.001), and				
						duration also had an				
						effect on the				
						following factors				
						from the BPD-SI:				
						outbursts of anger				
						(p=<00.1) and				
						emptiness (p=<.001).				
						Combined therapy				
						had significant				
						effects on				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						interpersonal relationships (p=<.009), impulsivity (p=<0.01), and affective instability (p=0.02) which increased over time (p=<0.001 for all domains). Neither type of therapy nor duration of therapy had effects on: abandonment, parasuicidal behaviour, paranoid ideation, and				
Bos, E.H.,	RCT	N=79	Between 8	Systems	Treatment as	identity. Summary: Moderate	Primary efficacy	Pre-	Effect sizes (non-	Raters
Van Wel,	Level II	TV / = 42)	and 12	Training for	usual (TAU)	to large effect sizes	measures	treatment	standardised):	were not
E.B.,	Dandonino	TX (n = 42)	subjects were	Emotional	The CTERRO	were seen for	included	assessments	Duine a m	blind and
Appelo, M.T., &	Randomiza	C (n = 37)	included in each group for	Predictability and Problem	The STEPPS groups began	symptom variables and psychological	general psychiatric and	(T1) took	Primary outcomes:	interrater reliability
Verbraak,	tion was done	C (II – 37)	the Treatment	Solving	simultaneously	quality of life at T2.	BPD-specific	place following	Estimated mean	was not
M.J. (2010).	separately		group. If at	(STEPPS) +	with a group of	At T3, moderate	symptoms,	randomizati	differences at the	assessed
A (2010).	at each		the time of	individual	patients that	effects on symptoms	measured with	on, just	end of treatment	for the
randomized	location.		randomisation	treatment	started TAU.	were still present,	the Symptom	before the	(T2), adjusted for	BPDSI-IV.
controlled			, an	Group	The control	while also moderate	Checklist-90	start of the	differences at T1,	Intention to
trial of a			insufficient	treatment; it	condition was	effects on physical,	total score (SCL-	intervention.	were: SCL-90,	treat
Dutch			number of	combines	TAU, i.e., the	social and overall	90) and the	Post-	-47.0 (95% CI,	analysis
version of			participants	skills training	standard	quality of life could	Borderline	treatment	-78.2 to -15.9, p =	was
systems			were assigned	with general	treatment for	be observed.	Personality	assessments	0.003); BPD-40,	completed
training for			to a group,	CBT elements	BPD offered at	More than TAU,	Disorder	(T2) were	-18.7 (95% CI,	but yielded
emotional			the remaining	and has a	the	STEPPS plus limited	checklist-40	done after	-31.6 to -5.8, p =	similar
predictabilit			spots were	strong	participating	adjunctive individual	total score	the final	0.005). At 6 mth	results to
y and			randomly	systems	sites. This	therapy reduced	(BPD-40)	weekly	follow-up (T3),	the per-
problem			assigned to	component;	treatment	symptomatology and	respectively.	session of	the differences	protocol

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
solving for borderline personality disorder.			subjects who did not meet full BPD criteria (these	family members and significant others are	consisted of individual therapy from a psychotherapist	improved quality of life, also in the longer run. STEPPS was not superior to TAU in	Secondary outcome measures included	the STEPPS program (mean 23.9 ±3.6 weeks	were smaller but still significant: SCL-90, -38.4 (95% CI, -67.1 to	analysis so only the per- protocol
Journal of Nervous and Mental Disease, 198(4), 299-			participants were not included in this analysis).	actively involved in the program. The Dutch	, psychologist, or psychiatric nurse, offered every 1 to 4 weeks. STEPPS-	reducing impulsive and parasuicidal behaviours, but this may be explained by the low base rate of	impulsive and parasuicidal behaviour, and quality of life. Impulsive and	after T1). Follow- up assessments (T3) took place	-9.6, p =0.009); BPD-40, -14.7 (95% CI, -26.6 to -2.8, p =0.016).	analysis was presented. The comparabili
304. The Netherlands			Age mean (SD) Treatment 32.9 (5.6) Control 31.8 (9.2)	version of the STEPPS group program involves 18 weekly	related treatments like DBT or family groups for family members	these behaviours in our sample. It may also be that a more intensive treatment, such as DBT, is	parasuicidal behaviour were assessed using 2 subscales of the Borderline	approximate ly 6 months after T2 (mean 25.7 ±4.2 weeks	Secondary outcomes: In the domain of Psychological Health, STEPPS	ty of treatment between sites and the
			Gender – female (n, %) Treatment 35, 83.3% Control 33, 89.2%	sessions and a single follow-up session 3 to 6 months after the conclusion of the program.	of the patients were not allowed. In both conditions, the main treatment could be	required to find differential effects on these behaviours. The merit of the STEPPS program is that it is relatively easily learned and	Personality Disorder Severity Index- IV (BPDSI-IV). The impulsivity subscale contains 11	after T2). Outcome measures were assessed on all 3 occasions	scores were higher than TAU scores particularly at T2 (estimated mean difference adjusted for T1 score: 2.08 [95%	comparabili ty between different therapists was not assessed.
			Diagnosis BPD confirmed by administering the BPD modules from	The program has 3 main components: (1) psychoeducati on about BPD; (2) emotion	supplemented with (medication) contacts with a psychiatrist, social worker, or other health	implemented, and nevertheless improves BPD treatment in a number of ways. Further research to compare this	items reflecting potentially harmful impulsive behaviours (e.g., gambling, reckless driving,		CI, 0.76 –3.41, p =0.002]); at T3, this difference was reduced to 0.91 (95% CI, -0.32–2.15, p =0.146). With	1.1=A 1.2=A 1.3=B 1.4=F 1.5=A
			the Dutch versions of the Personality Diagnostic Questionnaire and the Structured	management skills training; and (3) behaviour management skills training. STEPPS is	care professional.	treatment with other effective treatments is warranted. Importantly, this RCT on STEPPS is the first done by others than its developers.	binge eating). The parasuicide subscale contains 13 items reflecting self-mutilating Parasuicidal		respect to Overall Quality of Life and General Health, Physical Health and Social Relationships, STEPPS scores	1.6=A 1.7=B 1.8=28.9% (TX) and 13.2% (C) 1.9= 3 1.10=4
			Clinical Interview for	system-based in that friends		Detail: Scores on the	behaviours and suicidal		were significantly higher than TAU	2.1 = (+)

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
,	Level of		Gender					•		
	Evidence		Diagnosis							
			Other							
			DSM-IV Axis II	and relatives		primary efficacy	thoughts and		scores only at T3	
			Disorders.	of the patients		measures. SCL-90	attempts.		(estimated	
			Participants	are explicitly		and BPD-40 symptom	Quality of life		differences 1.80	
			had to be	involved in the		scores generally	was measured		[95% CI, 0.30 -	
			above	program for		decreased from T1 to	with the World		3.30,	
			threshold on	support and		T3, and more so in	Health		p =0.019]; 1.41	
			either	reinforcement		the STEPPS group	Organization		[95% CI, 0.15-	
			impulsivity	of the newly		than in the TAU	Quality of Life		2.66, p =0.028];	
			and/or	learned skills		group.	Assessment-		and 1.86 [95% CI,	
			parasuicide	(the "support		Quality of life scores	Bref (WHOQOL-		0.14 –3.57, p	
			subscales of	group"). They		(WHOQOL-Bref)	Bref)		=0.035],	
			the BPD	receive		generally increased			respectively), but	
			Severity	education		from T1 to T3.			not at T2	
			Index-IV	about BPD		Overall treatment			(estimated	
				and are		effects were found			differences 1.58	
			Exclusion	instructed		for Overall Quality of			[95% CI, -0.07–	
			Subjects were	how to		Life and General			3.22, p =0.060];	
			excluded if	interact with		Health, Physical			0.96 [95% CI, -	
			they did not	the person		Health, and			0.40 – 2.32, p =	
			speak Dutch;	with the		Psychological Health.			0.164]; and 0.77	
			were	disorder.		For Social			[95% CI, -1.08 –	
			cognitively	STEPPS is		Relationships the			2.61, p =0.431,	
			impaired (IQ <	administered		overall treatment			respectively).	
			70); younger	by 2 mental		effect was a trend,			Odds ratios for	
			than 18 yrs;	health		for Environment the			impulsivity were	
			treated	professionals,		overall treatment			(T2): 0.81 (95% CI,	
			involuntary; or	of who at		effect was not			0.26 – 2.53, p =	
			presented an	least one is a		significant.			0.716); and (T3):	
			imminent	psychotherapi		In both conditions,			0.68 (95% CI,	
			danger to	st.		the number of			0.22–2.09, p	
			themselves or	Subjects		patients scoring			=0.501). Odds	
			others.	assigned to		above the cut-off for			ratios for	
				STEPPS also		ratings for the			parasuicide were	
				received		parasuicide and			(T2): 2.05 (95% CI,	
				limited		impulsivity subscales			0.66–6.35, p =	
				individual		of the BPDSI-IV			0.211); and (T3):	
				therapy. This		decreased from T1 to			1.02 (95% CI,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				therapy was		T3. There were no			0.35-2.97, p =	
				developed as		significant			0.974).	
				an adjunct to		differences between				
				STEPPS to		the conditions			Effect sizes	
				help		(overall treatment			(standardised):	
				consolidate		effects).			Effect sizes for	
				the newly		Medication was			the differences	
				acquired skills		similar between the			between the	
				and to		groups at baseline			treatments at T2:	
				stimulate their		and remained stable			SCL-90, 0.68;	
				use. It had a		during follow-up			BPD-40, 0.68;	
				structured		assessment.			Psychological	
				format, in		Over the entire study			Health, 0.96.	
				which the		period, patients in			At T3 effect sizes	
				previous		the STEPPS group			were: SCL-90,	
				STEPPS		received 15 STEPPS			0.56; BPD-40,	
				session was		group sessions on			0.53; Overall	
				discussed as		average, and had a			Quality of life &	
				well as the use		mean of 8 contacts			General Health,	
				of the learned		with their individual			0.61; Physical	
				skills in		therapist. TAU-			Health, 0.56;	
				everyday life.		patients had a mean			Social	
				The therapy		of 9 individual			Relationships,	
				was offered		contacts with their			0.61.	
				every 2 weeks		main therapist. In				
				during the		addition to these				
				entire study		study treatment				
				period.		contacts, TAU-				
						patients reported to				
						have had 31				
						ambulatory therapy				
						contacts on average				
						with other mental				
						health care workers				
						(e.g., psychiatrists,				
						psychologists,				
						psychiatric nurses,				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	DOT	N. CO				social workers). Patients in the STEPPS condition had a mean of 21 additional ambulatory therapy contacts.				
Carter, G.L.,	RCT	N=60	Age mean	Modified DBT:	WL + TAU	Summary: The study	The primary	3 and 6	BDQ days in bed,	Very clear
Willcox,	Level II	Tuestines	(SD):	team-based	The control	found no statistically	outcomes	month	d=-0.66 (-1.25,	on
C.H., Lewin,	The	Treatment n= 27	Treatment	approach	condition was a 6-month WL for	significant differences between	(differences in	follow-up	-0.07)	methods of
T.J., Conrad, A.M., &	purpose of	11= 27	24.5 ± 6.12;	including individual	DBT while	modified DBT and	proportions and event rates) of		BDQ days out of role, d= -0.43	randomisati on and
Bendit, N.	the	Control n=	Control 24.7 ±	therapy,	receiving TAU	waitlist control/TAU	any deliberate		(-1.01, 0.15)	concealme
(2010).	present	33	6.15	group-based	(TAU+WL).	except for some	self-harm (DSH)		Days in hospital,	nt (sealed
Hunter DBT	study was		0.15	skills training,	Subjects, both	quality of life	event; general		d= -0.16 (-0.62,	envelopes).
project:	to		Gender: all	telephone	in the initial DBT	measures. There	hospital		0.30)	Randomizat
Randomized	compare		female	access to an	group and in	were trends towards	admission for		No. hospital	ion
controlled	dialectical		Temale	individual	the TAU+WL	modified DBT in	DSH and		admissions, d=	occurred
trial of	behaviour		Diagnosis:	therapist and	group who	reductions in	psychiatric		-0.22 (-0.68, 0.24)	after
dialectical	therapy		BPD via	therapist	came to DBT	hospitalisations,	admission for		No. hospital	baseline
behaviour	(DBT) and		clinical	supervision	after 6 months	shorter lengths of	any reason; and		presentations	assessment
therapy in	the control		interview by a	groups	were offered 12	stay, and days in bed.	mean difference		without	
women with	condition		psychiatrist	following the	months DBT	Authors state: There	in length of stay		admission, d=	Hospitalisat
borderline	of		using DSM-IV	model of	treatment,	are several possible	for any		0.03 (-0.43, 0.49)	ion data
personality	treatment		criteria. To be	treatment	although the	explanations given	hospitalization.		No. self-harm	was
disorder.	as usual		in the study,	developed by	comparison	to as to why DBT was	Secondary		episodes in	intention to
The	plus		needed a	Linehan et al.	between groups	not effective in this	outcomes were		previous 3 mths,	treat but
Australian	weight list		history of	The main	was restricted	study: regression to	disability and		d= -0.18 (-0.64,	rest was
and New	(WL) for		multiple	change to the	to the first 6	background (pre-	quality of life		0.28)	per-
Zealand	DBT		episodes of	Linehan et al.	months of DBT	baseline) levels, the	measures.		WHOQOL-BREF	protocol.
journal of	(TAU+WL).		deliberate	model was the	versus TAU+WL.	Hawthorne effect	Specific		Environmental	Large
psychiatry,			self-harm, at	telephone		whereby both groups	measures:		domain, d= 0.43	discrepancy
(2), 162-			least three	access to		improved because of	Composite		(-0.14, 0.99)	in drop
173.			self-reported	individual		the effect of being in	International		WHOQOL-BREF	outs
			episodes in	therapists. In		a study, the	Diagnostic		Physical domain,	between
			the preceding	the present		potentially powerful	Interview		d= 0.69 (0.11,	groups.
			12 months.	study		effect of being in a 6	modules:		1.27)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Exclusion: Exclusion criteria were presence of a disabling organic condition, schizophrenia, bipolar affective disorder, psychotic depression, florid antisocial behaviour, or developmenta I disability	telephone access was delivered using a group roster of DBT individual therapists (not contact with each participant's individual therapist) between 8:30 a.m. and 10 p.m., and telephone contact with the local psychiatric hospital between 10 p.m. and 8:30 a.m. Treatment subjects were also assigned to the relevant skills training group, meeting weekly with the modules running in the following		month TAU+WL group for DBT for the control condition, beneficial effects of the TAU condition available in the Hunter region, modifications to standard DBT, the possible inferiority of training of DBT therapists to that of those in other studies or inferior adherence to the DBT methods despite adequate training, and methodological differences. Detail: The present study found reductions in psychiatric hospitalization for both DBT and WL+TAU over time but no significant benefit in favour of DBT for the binary outcome, the mean event rate or the mean length of stay for those with an admission at the endpoint of the trial.	anxiety, depression, bipolar disorders, alcohol abuse and dependence, substance abuse and dependence International Personality Disorder Examination Questionnaire Brief Disability Questionnaire Lifetime Parasuicidal Count-2 Parasuicidal History Interview-3 month period WHO Quality of Life-BREF version		WHOQOL-BREF Psychological domain, d= 0.65 (0.07, 1.23) WHOQOL-BREF Social domain, d= -0.04 (-0.60, 0.53)	QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=B 1.7=A 1.8=47.4% (TX) and 11.4(C) 1.9=B 1.10= 2.1 = (+)
				order: Interpersonal		There were no significant				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				Effectiveness,		differences in				
				Emotion		proportions for				
				Regulation		general hospital				
				and Distress		admission for DSH or				
				Tolerance.		for any psychiatric				
				Each module		admission. The				
				ran for 8		length of stay overall,				
				weeks. Groups		or the length of stay				
				had a		for those with either				
				minimum of 4		type of admission				
				members		was not significantly				
				before		different, although				
				commenceme		the DBT group				
				nt and a		tended to have				
				maximum of		shorter lengths of				
				8. Entry to the		stay.				
				skills group		For the per-protocol				
				occurred only		analyses, there were				
				at the		no significant				
				commenceme		differences for the				
				nt of the next		proportion of				
				skills module.		patients with any				
						DSH episode in 6				
						months, or for the				
						number of self-harm				
						episodes for the				
						baseline–3 months				
						and 3–6 months				
						periods.				
						There was a				
						significant benefit in				
						favour of DBT for				
						days spent in bed but				
						no significant effect				
						for days out of role.				
						There was a				
						significant beneficial				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Cottraux, J., Note, I.D.,	RCT (pilot study)	N = 65	CT Male n=9	Cognitive therapy	Rogerian supportive	effect in favour of DBT, for three of the four domains of quality of life: Physical, Psychological and Environmental. Summary: CT retained the patients	Clinical Global Impression	51 patients were	Not Reported	Same therapists
Boutitie, F., Milliery, M., Genouihlac, V., Yao, S.N., Note, B., Mollard, E., Bonasse, F., Gaillard, S., Djamoussia n, D., De Mey Guillard, C., Culem, A. & Gueyffier, F. 2009. Cognitive Therapy versus Rogerian Supportive Therapy in Borderline	Level II	n=33 (CT) n=32 (RST) Eighty- eight patients were screened: 13 did not meet the inclusion criteria, 10 refused to enter the study and 65 were randomise d, 51 followed up post treatment.	Female n=24 Mean age 34.3 SD 10.2 RST Male n=6 Female n=26 Mean age 32.6 SD 8.3 Diagnosis using MINI and confirmed by the Interview for Borderline Personality Disorder- Revised (DIBR), with a score of at least 8,	10 sessions of individual 1-hour sessions, over 1 year.	therapy 10 sessions of individual 1- hour sessions, over 1 year.	in therapy for longer than RST. At week 24, CT was better than RST on the Hopelessness Scale, IVE scale and regarding the therapeutic relationship. At week 104, the CGI improvement (patient and evaluator) was significantly better in CT than in RST. High baseline depression and impulsivity predicted dropouts. High baseline depression and impulsivity predicted dropouts.	(CGI) Scale Hamilton Depression Scale Beck Depression Inventory Beck Anxiety Inventory Hopelessness Scale Young Schema Questionnaire II Eysenck Impulsivity Venturesomene ss Empathy (IVE) Inventory	evaluated at weeks 24, 38, and 52 and 21 at week 104. 21.5% drop out 6 months of intensive care with 1 session per week (24 sessions) and a maintenanc e phase with a session every fortnight over 6 mths		in both groups QC 1.1 = A 1.2 = B 1.3 = B 1.4 = B 1.5 = A 1.6 = A 1.7 = A 1.8 = 21.5% 1.9 = B 1.10 C 2.1 (+)
Personality Disorder. Psychothera py and Psychosoma tics, 78,			according to the threshold of the scale. Exclusion criteria were:			Detail: A between- group comparison of the time spent in therapy showed that dropouts left the		(12 sessions)		

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of		Gender							
	Evidence		Diagnosis Other							
307-316.			age under 18			study later in CT (CT:				
			or over 60			mean = 51 days, SD =				
France			years, patients			37.4; RST: mean = 29				
			living too far			days, SD = 32.4;				
			from the			Wilcoxon-Mann-				
			centres,			Whitney = -2.05; p =				
			psychotic			0.040).				
			disorders with							
			current			In the whole sample,				
			delusions,			the average time				
			significant			before ending				
			drug or			therapy was 82 days				
			alcohol			in CT vs. 60 in RST				
			addiction in			(Wilcoxon-Mann-				
			the			Whitney = -1.5; p =				
			foreground or			0.13).				
			antisocial							
			behaviours.			Using all available				
						information on the				
						response criterion,				
						the odds of success				
						were estimated to be				
						61% higher in the CT				
						group than in the RST				
						group, a large but				
						non-significant effect				
						(OR: 1.61, 95% CI:				
						0.62-4.16, p = 0.32).				
						When missing				
						outcomes were				
						considered as				
						failures, the estimated treatment				
						effect was reduced to				
						an OR of 1.33 (95% CI: 0.60–2.96, p =				
				1		0.48).				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						Change from baseline was significant for the IVE scale: CT mean = 0.85 (SD 1.74); RST mean = -0.67 (SD 2.87); Wilcoxon-Mann-Whitney: -2.086, p = 0.03.				
						The Hopelessness Scale also changed more in CT: mean – 3.31 (SD 4.64); RST mean = –0.50 (SD 3.73); Wilcoxon- Mann- Whitney: – 2.27, p = 0.02.				
						The therapeutic relationship was also better in CT: the therapists rated the patients more favourably in CT than in RST (p = 0.04).				
Davidson, K. M., Tyrer, P., Norrie, J., Palmer, S.J.,	RCT Level II	N= 106 n= 76 T=43	Age mean (SD) T= 32.4 ± 9.0 C= 31.4 ± 9.4	30 x 1 hr sessions of individual cognitive—	TAU	Summary: The original positive treatment effect is maintained over an	Structured Clinical Interview for DSM–IV Axis II	6 year follow-up.	BDI, d = 0.02 (-0.44, 0.47) BSI, d = 0.07	No info. on comorbidit y and prescribed
& Tyrer, H. (2010). Cognitive therapy v. Usual		C= 33	Gender – Female (n, %) T= (45, 83.3%) C= (44, 84.6%)	behavioural therapy for personality disorders (CBT–PD) over		average of 6 yrs follow-up: a difference of 1.26 suicide attempts over the following 5 yrs.	Personality Disorders. Acts of Deliberate Self-	people who originally took part n = 76/106 (72%) were	(-0.39, 0.52) EQ-5D thermometer, d = -0.11 (-0.57, 0.34)	drug use was obtained across the trial and
treatment for			Diagnosis: BPD, met	1 year in addition to		Detail: Over the 6- year period, 73% (n =	Harm Inventory.	interviewed at 6 year	EQ-5D weighted	follow-up, and no

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
borderline			criteria for at	their usual		24/33) in the TAU	Beck Depression	follow-up.	HSV, d = -0.24	formal
personality			least 5 items	treatment		group had made at	Inventory (BDI).		(-0.69, 0.22)	assessment
disorder:			of BPD using			least one suicide				of
Prospective			the Structured			attempt compared	Spielberger		IIP-32, d = 0.18	interrater
6-year			Clinical			with 56% (n = 24/43)	State-Trait		(-0.27, 0.64)	agreement
follow-up.			Interview for			in the CBT-PD group	Anxiety			was carried
British			DSM IV Axis II			(adjusted odds ratio	Inventory		SFQ, d =-0.18	out on
Journal of			Personality			0.37, 95% CI 0.10-	(STAI).		(-0.63, 0.27)	SCID-II
Psychiatry,			Disorders.			1.38, P= 0.13). In				diagnosis.
197(6), 456-						terms of self-harm	Brief Symptom		State-Anxiety, d =	Randomizat
462.			Inclusion: to			(non-suicidal) there	Inventory (BSI).		-0.19 (-0.64, 0.27)	ion was
			enter the			was little evidence of				stratified
UK			study,			a difference between	Participant's		Suicide attempts,	by high
			participants			the groups.	beliefs thought		d = -0.32 (-0.77,	(presence
			had received			However, it was clear	to be related to		0.14)	of suicidal
			either in-			that the overall rate	personality		,	acts in past
			patient			of self-harm declined	disorder were		Trait-Anxiety, d =	12 months)
			psychiatric			in both groups.	measured using		-0.10 (-0.56, 0.35)	or low
			services or an			For measures of	the Young			(presence
			assessment at			depression, anxiety,	Schema		Youth Schema	of self-
			accident and			general	Questionnaire		Questionnaire,	mutilation
			emergency			psychopathology,	(YSQ).		d = -0.07 (-0.52,	only in past
			services or an			social functioning,			0.39)	12 months)
			episode of			quality of life and	Social			episodes of
			deliberate			dysfunctional	Functioning			self-harm,
			self-harm			attitudes, there were	Questionnaire			using
			(either suicidal			no statistically	(SFQ).			randomized
			act or self-			significant				permuted
			mutilation) in			differences between	Inventory of			blocks of
			the previous			the groups during	Interpersonal			size 4.
			12 months.			follow-up.	Problems –			It was
						At 6 yrs, 54% of the	Short form 32			completed
			Exclusion:			sample no longer	(IIP-32).			confidential
			those who			met diagnostic	, ,			ly at a
			had evidence			criteria for BPD: 56%	Cost			separate
			of an organic			(n = 24/43) of the	effectiveness			centre.
			illness, mental			CBT–PD group and	via quality-			Therapy

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			impairment, alcohol or drug dependence, schizophrenia or bipolar affective disorder. Did not exclude those who were abusing drugs or alcohol providing they did not meet criteria for dependence			52% (n = 17/33) of the TAU group. There was no difference between the groups in terms of those who continued to meet diagnostic criteria (P = 0.44). Defined poor outcome as any suicide attempt in the follow-up period and examined the baseline predictors of good and poor outcome. From all the variables known to be of prognostic importance prerandomisation, only having special needs at school was specifically associated with the presence of any suicide attempts during the 6-year follow-up. Overall quality of life scores for the entire group remained poor and continued to lie within a similar range to values reported for other severe	adjusted life- year (QALY), assessed using the EuroQol (EQ-5D), and the Client Service Receipt Inventory (CSRI) for the 6 months before follow-up interview.			adherence measures were completed. QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=A 1.7=A 1.8= 20% (TX) and 36% (C) 1.9= A 1.10=A 2.1 = (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
						populations such as				
						severe schizophrenia.				
						Use of hospital				
						services remained				
						high in both groups				
						with about 54% of all				
						individuals having				
						received in-patient				
						treatment and				
						almost two-thirds				
						having utilised				
						accident and				
						emergency (A&E)				
						treatment during the				
						follow-up period.				
						With the exception of				
						in-patient and A&E				
						utilisation, no				
						particularly large				
						differences were				
						observed between				
						the treatment				
						groups. However, the				
						mean length of				
						hospitalisation was				
						markedly lower in the CBT-PD group				
						than for the TAU				
						group (10.81 v. 60.97				
						days respectively).				
						Although a similar				
						proportion of				
						patients in both				
						groups attended				
						A&E, both the mean				
						and median number				
						of attendances were				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						higher in the TAU group.				
Doering, S., Horz, S., Rentrop, M., Fischer- Kern, M., Schuster, P., Benecke, C., Buchheim, A., Martius, P, Buchheim, P. (2010). Transferenc e-focused psychothera py v. Treatment by community psychothera pists for borderline personality disorder: Randomised controlled trial. British Journal of Psychiatry, 196(5), 389- 395. Germany	RCT Level II	Treatment n=52 Control n= 52	Age mean (SD): Treatment 27.46 ±6.8; Control 27.19 ± 7.5 Gender – all females Diagnosis: DSM-IV BPD via Structured Clinical Interview for DSM and Structured Interview for Personality Organisation Exclusion Exclusion criteria were diagnosis of antisocial personality disorder, schizophrenia, bipolar I and II disorder with a major depressive, manic or	Transference- focused psychotherapy (TFP): Two 50- minute sessions are delivered per week. Before treatment starts, a treatment contract is negotiated orally with the individual, covering general aspects like duration and payment as well as potential threats to the treatment specific to each patient (e.g. suicide attempts, drug misuse or anorectic behaviour). The treatment focuses on the		Summary: TFP group had fewer DSM features at 1 year, fewer self-harm and suicide attempts, lower duration and less time as an inpatient and better psychosocial functioning than control group. The drop-out rate was significantly higher in the experienced community psychotherapists group Detail: There were no significant differences between the groups with regard to medication at baseline and during the 1-year treatment period. The TFP group showed a significantly higher proportion of participants that fulfilled less than five DSM–IV diagnostic	Primary: Drop-outs Suicide attempts and self-harming behaviour: Cornell Interview for Suicidal and Self-Harming Behaviour- Self Report (CISSB), adapted from the Parasuicidal History Interview Secondary: DSM-IV diagnostic criteria for BPD via SCID GAF Beck Depression Inventory State-Trait Anxiety Inventory Brief Symptom Inventory Psychiatric inpatient admissions - Cornell Revised	Follow-up: 1 year	Any suicide attempts during psychotherapy, d = -0.08 (-0.47, 0.30). BDI, d=0.12 (-0.26, 0.51). Brief symptom inventory, d= 0.08 (-0.31, 0.46). GAF, d=0.34 (-0.04, 0.73). Level of personality organisation, d= -0.26 (-0.65, 0.12). No. of days in psychiatric inpatient during psychotherapy, d = -0.23 (-0.61, 0.16). No. of DSM-IV diagnostic criteria for BPD, d= -0.56 (-0.95, -0.17). No. of psychiatric inpatient admissions during psychotherapy, d= -0.47 (-0.86, -0.08).	High, differential drop out QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=C 1.7=A 1.8= Treatment 17% not assessed at follow-up; Control 44% not assessed at follow-up 1.9= A 1.10=C 2.1 = (-)
			hypomanic episode	integration of internalised		borderline criteria after 1 year and were	Treatment History		Self-harming during	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			during the previous 6 months, substance dependency (including alcohol) during the previous 6 months, organic pathology or mental retardation.	experiences of dysfunctional early relationships. For this purpose, the actual relationship between the individual and the therapist ('transference relationship') is examined as much as possible. Additional psychotherapy not allowed		not diagnosed BPD any more (42.3% v. 15.4%, P= 0.002). The transference-focused psychotherapy group was significantly superior with regard to the number of DSM–IV diagnostic criteria, psychosocial functioning, personality organisation, suicide attempts and number and duration of psychiatric inpatient treatments. To rule out a mere dose effect of TFP, completer analyses were conducted, controlling for the number of therapy sessions delivered. The group differences remained significant for GAF Score, number of DSM–IV borderline criteria, and level of personality organisation. In both groups all but one of the individuals who attempted suicide dropped out of	Inventory (CRTHI) Personality organisation: STIPO		psychotherapy, d= -0.12 (-0.50, 0.27). State-Trait Anxiety X1, d= 0.18 (-0.20, 0.57). State-Trait Anxiety X2, d= 0.04 (-0.35, 0.42).	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						treatment. Those				
						who dropped out				
						were not included in				
						the completer				
						analysis.				
						The results				
						demonstrate the				
						significant superiority				
						of TFP with regard to				
						the primary outcome				
						criteria of drop-out				
						rate and suicide				
						attempts during the				
						treatment year. The				
						same was true for				
						the secondary				
						outcome criteria				
						reduction of DSM-IV				
						diagnostic borderline				
						criteria, psychosocial				
						functioning, level of				
						personality				
						organisation and				
						psychiatric in-patient				
						admissions.				
						Participants in the				
						transference-focused				
						psychotherapy group				
						received 48.5 (s.d. =				
						34.2) sessions and				
						those in the				
						experienced				
						community				
						psychotherapists				
						group 18.6 (s.d. =				
						24.0) sessions of				
						individual				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						psychotherapy within the 1-year study period. Future research should look at long-term follow-up, since effects of psychotherapy seem to take yrs to develop and to continue after termination of treatment Transference-therapists received more supervision and had assessment of treatment adherence. Large difference between dropout rates between groups. Control group participants attended fewer sessions than the intervention group.				
Duggan, C., Huband, N., Smailagic, N., Ferriter, M., Adams,	SR Level 1	N=35 A total of 35 studies described	AGE RANGE (18 - 62) = 18 studies No Age Range = 11 studies	Olanzapine vs. placebo = 2 studies Carbamazepin e vs. placebo	Placebo + others listed under intervention.	Summary: This review identifies a very limited evidence base to justify intervening with	Quality of Life (SF36) = 1 study BDI = 2 studies BIS = 1 study IMPS = 2 studies	12 wks = 2 studies, 32 days + washout = 1 study, 6	Mean differences (MD, 95% CI) provided for individual studies and weighted	Search only up to 31 Dec 2006, plus DBT.
C. (2008) The use of pharmacolo gical treatments for people		pharmacol ogical interventio ns for people with a	GENDER Male and Females = 18 studies Females = 12	= 1 study Divalproex sodium vs. placebo =4 studies Thiothixene		drugs in this group. The main positive findings were those favouring the use of anticonvulsants to reduce aggression,	SCL-90 = 2 studies SSI = 2 studies Stic = 2 studies WSIAP = 2 studies	mths = 3 studies, 12 wks + washout = 2 studies, 10 wks = 2	mean differences (WMD, 95% CI) provided for >1 study. Cognitive-perceptual thinking:	QC 1.1 = A 1.2 = A 1.3 = A 1.4 = A 1.5 = A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
with personality disorder: A systematic review of randomized controlled trials. Personality and Mental Health. Jul 2(3), 119- 70. UK		variety of personality disorders. Studies reviewed included diagnostic category for BPD	study Males = 1 study SETTING Outpatient = 16 studies Outpatient and community = 1 study Community = 8 studies Inpatient = 3 studies Multicentre = 1 study Not stated = 1 study	hydrochloride vs. placebo = 1 Fluoxetine vs. Nortriptylyne = 1 study Loxapine succinate vs. Chlorpromazin e = 1 study Topiramate vs. placebo = 3 studies Mianserin vs. placebo = 1 study Aripiprazole vs. placebo = 1 study Naloxone vs. placebo = 1 study Clonidine vs. clonidine vs. clonidine = 1 study Fluoxetine vs. placebo = 1		and of anti- psychotics to reduce cognitive perceptual and mental state disturbance. However, there were major methodological deficiencies in the trial designs, including small numbers of participants and limited duration of treatment and follow-up. Detail: see effect sizes	HDQ = 1 study STAXI = 2 studies HAM (VARIOUS) = 8 studies Behaviour (BPD SI) = 1 study Behaviours (VARIOUS AGGRESSION) = 4 studies Behaviour - suicide attempt = 2 studies Behaviour (impulsivity) = 2 studies Behavioural dyscontrol (acting out, AOS) = 1 study Behaviour (self- injury) = 2 studies	studies, 12 wks + tapering = 1 study, 12 wks + placebo runin = 1 study, 6 wks + 6 mth follow up = 1 study, 6 wks = 1 study, 8 wks = 6 studies, 6 - 35 days = 1 study, 4 - 16 days = 1 study, 24 wks = 1 study, 3 mths + washout = 1 study, 5 wks + washout = 2 studies, 52 wks + placebo washout = 1 study.	Paranoid thinking (aripiprazole) MD: -8.10 (-12.21, -3.99). Psychoticism (aripiprazole) MD: -6.20 (-8.94, -3.46). Somatization (topiramate) MD -6.80 (-9.97, -3.63). Depression: SCL-90 (anticonvulsant) WMD -0.57 (-1.27, 0.13); HAM-D (atypical antipsychotic) WMD -3.98 (-5.70, -2.26), SCL-90-R (aripiprazole) MD -16.40 (-20.88, -11.9); POMS (fluoxetine) risk ratio 0.26 (0.09, 0.72); HAM-D (phenelzine vs. haloperidol) MD -7.86 (-10.51, -5.21) favours phenelzine. Anger: STAXI State anger	2.1 (++)

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Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other	DBT vs.					WMD -6.66	
				placebo +DBT					(-7.63, -5.68),	
				= 1 study					(aripiprazole) MD	
				Olanzapine +					-7.70 (-10.1,	
				adapted DBT					-5.39);	
				vs. placebo +					STAXI Trait anger	
				adapted DBT=					(anticonvulsant)	
				1 study					WMD -3.89	
				Haloperidol					(-4.84, -2.93),	
				vs. Phenelzine					(aripiprazole) MD	
				sulphate vs.					-5.90 (-8.04,	
				placebo = 1					-3.76);	
				study					STAXI Anger in	
				Lamotrigine					(anticonvulsant)	
				vs. placebo = 1					WMD -1.11	
				study					(-1.64, -0.57),	
				Omega 3 fatty					(aripiprazole) MD	
				acid vs.					-4.20 (-5.79,	
				placebo =1					-2.61);	
				study					STAXI Anger out	
				Olanzapine vs.					(anticonvulsant)	
				Fluoxetine vs.					WMD -5.09	
				Olanzapine +					(-5.75, -4.43),	
				fluoxetine = 1					(aripiprazole) MD	
				study					-6.40 (8.27,	
				Paroxetine vs.					-4.53);	
				placebo = 1					STAXI Anger	
				study					control	
				Haloperidol					(anticonvulsant)	
				vs.					WMD 2.64 (2.22,	
				Amitriptyline					3.07),	
				vs. placebo = 1					(aripiprazole) MD	
				study					2.70 (0.53, 4.87);	
				Nortriptyline					SCL-90	
				vs.					Anger/hostility	
				Bromocriptine					(anticonvulsant)	
				vs. placebo = 1					WMD -0.91	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other	study					(-1.37, -0.45),	
				CBT vs.					(aripiprazole) MD	
				Moclobemide					-8.50 (-12.48,	
				vs. placebo = 1					-4.52);	
				study					POMS Anger	
				Amantadine +					(fluoxetine) risk	
				Std. care vs.					ratio 0.30 (0.10,	
				Desipramine +					0.85)	
				Std. care vs.					BDHI Hostility	
				placebo + Std.					(phenelzine) MD	
				care = 1 study					-9.19 (-16.12,	
				Risperidone					-2.26);	
				vs. placebo = 1						
				study					Anxiety IMPS	
				Fluoxetine					intropunitiveness	
				hydrochloride					(conventional	
				vs. placebo = 1					anti-psychotic)	
				study					WMD -0.36	
				Fluphenazine					(-3.30, 2.58),	
				decanoate vs.					(phenelzine) MD	
				Fluphenazine					-3.88 (-7.51,	
				decanoate = 1					-0.25), HAM-A	
				study					general anxiety	
				Desipramine +					(atypical	
				Std.					anxipsychotic)	
				Methadone					WMD -2.62	
				treatment vs.					(-4.52, -0.72),	
				placebo + Std.					SCL-90-R general	
				Methadone					anxiety	
				treatment = 1					(topiramate), MD	
				study					-6.30 (-8.63,	
									-3.97),	
				Two studies					(aripiprazole) MD	
				(Simpson et					-9.10 (-12.55, -	
				al., 2004;					5.65), SCL-90-R	
				Soler et al.,					phobic anxiety,	
				2005) used a					(topiramate) MD	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other	drug plus DBT in the active treatment arm, but in both cases compared it with a placebo					-4.10 (-6.72, - 1.48), (aripiprazole) MD -5.70 (-10.33, -1.07), SCL-90-R interpersonal sensitivity (divalproex sodium) MD -0.70 (-1.30, -0.10), SCL-90-R insecurity in social contact (topiramate) MD -6.80 (-10.63, -2.92), (aripiprazole) MD -4.50 (-7.64, -1.36) Impulsiveness BIS (conventional anti-psychotic) WMD 1.38 (-7.51, 10.27), STIC (conventional anti-psychotic) WMD 1.12 (-0.82, 3.07), Global functioning GAS (conventional	
									anti-psychotic) WMD 1.75 (-2.37, 5.86), CGI (divalproex	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
									sodium) risk ratio 0.58 (0.36, 0.94), GAS (phenelzine vs. haloperidol) MD 5.15 (0.29, 10.01) favours phenelzine Social functioning SF-36 (topiramate) MD	
									7.70 (4.44, 10.96) Overall symptoms/menta I health IMPS (conventional anti-psychotic) WMD -1.86 (-10.85, 7.14), SCL-90-R global severity	
									(aripiprazole) MD -9.30 (-13.22, -5.38), (topiramate) MD -5.90 (-8.47, -3.33), SF-36 (topiramate) MD 4.50 (1.27, 7.73), Interpersonal symptoms (IIP-D) Overly autocratic/	
									dominant (topiramate) MD - 5.30 (-6.15, -4.45) Overly	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other						quarrelsome/ competitive (topiramate) MD -5.80 (-6.56, -5.04), Overly introverted/ social avoiding (topiramate) MD -2.60 (-3.38, -1.82) Overly expressive/ importunate (topiramate) MD -3.80 (-4.36, -3.24)	
									Overall physical functioning SF-36 physical functioning (topiramate) MD 3.90 (0.99, 6.81), SF-36 Role limitation (topiramate) MD 4.00 (0.02, 7.98)	
									Adverse effects Menstrual problems (anticonvulsants) risk ratio 1.31 (0.41, 4.16) Any adverse effects in 2 weeks (fluvoxamine) risk	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Farrell, J. M., Shaw, I. A., & Webber, M. A. (2009). A schema- focused approach to	RCT Level II Patients (N = 32) were randomly	N=28 n=16 (interventi on) n=12 (TAU)	Age mean: 22-52 Gender: all female Inclusion criteria were:	Eight-month, thirty-session schema- focused therapy (SFT) group to added to treatment-as-	TAU (individual psychotherapy of at least sixmonths duration)	Summary: When baseline scores were compared to post-treatment scores, the improvement on all measures was significant for the SFT-group, but not	Primary Measures: Borderline Syndrome Index (BSI) a 52 item true or false self-report	Post- treatment and six- month follow-up.	ratio 1.62 (1.05, 2.51) favours placebo Mild sedation (olanzapine) risk ratio 3.50 (1.23, 9.92) favours fluoxetine SF-36 vitality (topiramate) MD 6.60 (3.71, 9.49) favours topiramate Nausea (fluvoxamine) risk ratio 4.05 (1.01, 16.32) favours placebo BSI (BL/Post/FUp) .22/1.97*/2.81* DIB_R (BL/Post/FUp) .46/2.22*/2.42* SCL-90	No Intention to treat analysis was undertaken , only treatment
group psychothera py for outpatients with borderline	assigned to SFT-TAU and TAU alone.	(IAG)	females between the ages of 18 and 65, who met criteria for a BPD diagnosis	usual (TAU) individual psychotherapy for borderline personality disorder		for the TAU control group. The improvement was maintained or strengthened for the treatment group and	measure of BPD symptoms that allows measurement of change by specifying a time period for		(BL/Post/FUp) .13/1.35/2.2* GAF (BL/Post/FUp) 0.06/1.39/3.13	completed analysis, but there was only dropout from
personality disorder: a randomized controlled trial. Journal			confirmed by the Diagnostic Interview for Personality Disorders-	(BPD). The group-SFT program consists of		lack of improvement maintained for the control group from post to six-month follow-up	time period for the subject to base answers on.		* indicates significant between group differences in	treatment in the control group.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
of			Revised and	thirty weekly			Symptom Check		effect at that time	QC
behaviour			the Borderline	sessions, each		The TAU group	List-90 (SCL-90)		point.	1.1 = A
therapy and			Syndrome	lasting 90 min,		showed little	the global			1.2 = A
experiment			Index and	over an eight-		improvement, or	severity score			1.3 = B
al			were in	month period,		even some	was used as a			1.4 = B
psychiatry,			individual	with 6		deterioration, over	measure of			1.5 = A
40(2), 317-			psychotherapy	patients and 2		the fourteen months	subjective			1.6 = A
328.			of at least six-	therapists and		of the study.	experience of			1.7 =A
			months	manual based.			general			1.8 = There
USA			duration and			Detail: Significant	symptoms.			was no
			would agree			reductions in BPD				drop out
			to continue			symptoms and global	Diagnostic			from the TX
			that			severity of	Interview for			group but
			treatment for			psychiatric	Borderline			25% drop
			the course of			symptoms, and	Personality			out from
			the study.			improved global	Disorders-			the control
						functioning with	Revised (DIB-R)			group.
			Exclusion			large treatment	a structured			1.9= A
			criteria were:			effect sizes were	interview that			1.10=F
			an Axis I			found in the SFT-TAU	assesses four			2.1 (+)
			diagnosis of a			group.	putative aspects			
			psychotic				of BPD			
			disorder or a			At the end of	psychopatholog			
			below average			treatment, 94% of	y (affect,			
			IQ (89), as			SFT-TAU compared	cognition,			
			measured by			to 16% of TAU no	impulse,			
			the Shipley			longer met BPD	interpersonal)			
			Institute of			diagnosis criteria	and assigns			
			Living Scale.			(p < .001).	scaled severity			
			IQ was made			,	scores.			
			an exclusion			There was a				
			criterion			significant overall	Global			
			because of the			effect on DIB-R and	Assessment of			
			cognitive and			specifically for	Function Scale			
			reading			impulses and	(GAFS) ratings			
1			demands of			interpersonal	by patients'			
			the program.			subscales.	individual			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Attendance at weekly individual psychotherapy sessions was a condition of remaining in the study.				therapists was used as a measure of global functioning since it includes symptom, social and occupational functioning.			
Ingenhoven, T., Lafay, P., Rinne, T., Passchier, J., Duivenvoor den, H. (2010) Effectivenes s of pharmacoth erapy for severe personality disorders: Meta- analyses of randomized controlled trials. Journal of Clinical Psychiatry. 71(1),14-25. The Netherlands	SR Level 1	N = 32 included studies of which n = 21 were subject to meta-analysis.	Adults from inpatient/outp atient settings (6 studies), inpatient only (5 studies) and outpatient settings (21 studies).	Flupentixol IM - 1 study, Thiotixene - 1 study, Trifluoperazin e -1 study, Haloperidol - 3 studies, Olanzapine - 3 studies, Risperidone - 1 study, Aripiprazole - 1 study, Mianserine - 1 study, Tranylcypromi ne- 1 study, Amitriptyline- 1 study, Desipramine- 1 study, Phenelzine - 2 studies, Fluoxetine - 4 studies,	Varied by study	Summary: No evidence for effect of antidepressants on impulse control, depressed mood, global functioning. Small effect on anxiety and anger. Mood stabilisers had a very large effect on impulsive behavioural dyscontrol, anger, anxiety. Moderate effect on depressed mood. More pronounced effect than antipsychotics on global functioning Use is not supported nor is the combined use with antipsychotics Atypical antipsychotics do not	Three symptom domains: cognitive perceptual symptoms impulsive-behavioural dyscontrol affective dysregulation: (4 subdomains) depressed mood, anxiety, anger, mood lability Global functioning	5 – 26 weeks	Antipsychotics have a moderate effect on cognitive-perceptual symptoms (5 PC-RCTs; standardized mean difference [SMD] = 0.56) and a moderate to large effect on anger (4 PC-RCTs; SMD = 0.69) Antidepressants have a small but significant effect on anxiety (5 PC-RCTs; SMD = 0.30) and anger (4 PC-RCTs; SMD = 0.30) and anger (4 PC-RCTs; SMD = 0.34). The effect of antidepressants on global functioning is	QC 1.1 = A 1.2 = A 1.3 = A 1.4 = A 1.5 = A 2.1 (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other	1 study, Carbamazepin e -2 studies, Lithium – 1 study, Valproate – 3 studies, Lamotrigine- 1 study, Topiramate - 3 studies		neuroleptics Detail: Antipsychotics have a moderate effect on cognitive-perceptual symptoms. Antipsychotics have a moderate to large effect on anger. Antidepressants have no significant effect on impulsive-behavioural dyscontrol and depressed mood. Antidepressants have a small but significant effect on anxiety and anger. Mood stabilizers have a very large effect on impulsive behavioural dyscontrol. Mood stabilizers have a very large effect on anger. Mood stabilizers have a very large effect on anger. Mood stabilizers have a very large effect on anxiety. Mood stabilizers have a moderate effect on depressed			Mood stabilizers have a very large effect on impulsive-behavioural dyscontrol (6 PC-RCTs; SMD = 1.51) and anger (7 PC-RCTs; SMD = 1.33), a large effect on anxiety (3 PC-RCTs; SMD = 0.80), but a moderate effect on depressed mood (5 PC-RCTs; SMD =0.55. Mood stabilisers have a more pronounced effect on global functioning (3 PCRCTs; SMD = 0.79) than antipsychotics have (5 PC-RCTs; SMD = 0.37).	
						mood. Mood lability as an outcome measure was seldom assessed.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						Mood stabilizers				
						have a more				
						pronounced effect on				
						global functioning				
						than have				
						antipsychotics.				
						The effect of				
						antidepressants on				
						global functioning is				
						negligible.				
						The review suggests				
						that atypical				
						antipsychotics do not				
						outperform the				
						classic neuroleptics.				
						With respect to				
						impulsive-				
						behavioural				
						dyscontrol, the				
						prevalent use of				
						antidepressants				
						(SSRIs) is not				
						validated by this				
						meta-analysis, nor is				
						the second step of				
						adding a traditional				
						antipsychotic drug.				
						Modern mood				
						stabilizers seem to				
						deserve a more				
						prominent position.				
						Prescribing SSRIs as				
						first and second steps				
						in the treatment of				
						affective				
						dysregulation seems				
						out-dated since				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						mood stabilizers have a more pronounced effect. Evidence-based pharmacologic treatment guidelines for severe personality disorders are still in their infancy.				
Lieb, K., Vollm, B., Rucker, G., Timmer, A., Stoffers, J.M. (2010) Pharmacoth erapy for borderline personality disorder: Cochrane systematic review of randomised trials. British Journal of Psychiatry. 196(1), 4- 12. UK	SR Level I	N= 27 studies Twenty- seven trials were included in which first and second generation antipsycho tics, mood stabilisers, antidepres sants and omega-3 fatty acids were tested	Participants were adults from mostly outpatient settings. There was a mix of male and female participants ranging from 16 – 314 with 1714 participants in total.	Olanzapine vs placebo – 6 studies, Carbamazepin e vs placebo – 1 study, Valproate semisodium vs placebo – 2 studies, Thiothixene vs placebo – 1 study, Omega 3 fatty acids vs placebo – 2 studies, Loxapine Chlorpromazin e vs placebo – 1 study, Topiramate vs placebo – 3 studies, Aripiprazole vs placebo – 1 study, Ziprasidone vs placebo – 1 study, Ziprasidone vs placebo – 1	Varied by study	Summary: Little evidence for effectiveness of antidepressants. There were positive effects for valproate, lamotrigine and topiramate but not carbamazepine. Haloperidol reduced anger, flupenthixol reduced suicidal behaviour, aripiprizole reduced pathology. Omega 3 fatty acids may reduce depressive symptoms but few studies Detail: First generation antipsychotics – The comparisons of first- generation antipsychotics (FGAs) with placebo yielded significant effects for haloperidol in the	Primary outcomes were overall disorder severity as well as specific core symptoms. Secondary outcomes comprised associated psychiatric pathology and drug tolerability	Study durations ranged from 5 weeks to 24 weeks, with a mean duration of approximate ly 84 days (s.d. = 54.7).	Standardised mean difference (SMD 95% CI), standardised mean change (SMC) or risk ratio (RR, 95% CI) Effect sizes vs. placebo: First generation antipsychotics Haloperiodol for anger SMD -0.46 (-0.84, -0.09) Flupentixol decanoate for suicidal behaviour RR 0.49 (0.29, 0.92) No proof of efficacy for thiothixene. Second-generation antipsychotics Aripiprazole for anger SMD -1.14	Authors state that the robustness of findings is low, since they are based mostly on single, small studies. QC 1.1 =A 1.2 =A 1.3 =A 1.4 =A 1.5 =B 2.1 (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				study,		reduction of anger			(-1.73, -0.55), for	
				Fluvoxamine		and flupentixol			psychotic	
				vs placebo - 1		decanoate in the			symptoms SMD	
				study,		reduction of suicidal			-1.05 (-1.64,	
				Fluoxetine vs		behaviour. No proof			-0.47), for	
				placebo – 2		of efficacy was found			impulsivity SMD	
				studies,		for thiothixene for			-1.84 (-2.49,	
				Haloperidol		any outcome.			-1.18), for	
				Phenelzine		Tolerability between			interpersonal	
				sulphate vs		active and placebo			problems SMD	
				placebo – 1		treatment did not			-0.77 (-1.33,	
				study,		differ in any			-0.20), for	
				Haloperidol		comparison.			depression SMD	
				Amitriptyline		Second generation			-1.25 (-1.85,	
				vs placebo – 1		antipsychotics –			-0.65), for anxiety	
				study,		Among second-			SMD -0.73 (-1.29,	
				Lamotrigine vs		generation			-0.17), for general	
				placebo – 1		antipsychotics			severity of	
				study,		(SGAs), aripiprazole			psychiatric	
				Olanzapine,		was found to have			pathology SMD	
				Fluoxetine		both significant			-1.27 (-1.87,	
				Olanzapine +		effects in the			-0.67).	
				fluoxetine – 1		reduction of the core			Olanzapine for	
				study,		pathological			affective	
				Flupentixol		symptoms of BPD, as			instability SMC	
				decanoate vs		investigated by one			-0.16 (-0.32,	
				placebo - 1		trial with 52			-0.01), for anger	
				study,		participants. Six trials			SMC -0.27 (-0.43,	
				Mianserin vs		compared olanzapine			-0.12), for	
				placebo – 1		with placebo; among			psychotic	
				study.		these were two large			symptoms SMC	
						studies including			-0.18 (-0.34,	
						approximately 300			-0.03), for anxiety	
						participants each.			mean change	
						Unfortunately, the			difference	
						different formats of			-0.22 (-0.41,	
						result reporting (end-			-0.03), for suicide	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						point v. change data)			ideation SMC	
						did not allow pooling			0.29 (0.07, 0.50),	
						of all study estimates			for suicidality	
						for the majority of			SMD 0.15 (-0.36,	
						outcomes. There			0.65), self-harm	
						were also statistically			RR 1.20 (0.50,	
						significant benefits			2.88).	
						for the reduction of			No significant	
						anxiety. However,			effects for	
						results for suicidal			ziprasidone.	
						ideation were			Mood stabilisers	
						inconsistent			Valproate	
						Mood stabilisers –			semisodium for	
						Beneficial effects			interpersonal	
						were found for the			problems SMD-	
						mood stabilisers			1.04	
						valproate			(-1.85, -0.23), for	
						semisodium			depression SMD	
						(divalproex sodium),			-0.66 (-1.31,	
						lamotrigine and			-1.01), for two	
						topiramate, but not			studies of anger	
						for carbamazepine.			SMD -1.83	
						Antidepressants -			(-3.17, -0.48) and	
						There was little			SMD -0.15 (-0.91,	
						evidence of			0.61).	
						effectiveness for			Lamotrigine for	
						antidepressant			impulsivity SMD	
						treatment.			-1.62, (-2.54,	
						Other drugs – For			-0.69)	
						supplementary			Topiramate for	
						omega-3 fatty acids,			interpersonal	
						significant effects			problems SMD	
						were found in one			-0.91 (-1.36,	
						study for the			-0.35), for	
						reduction of			impulsivity SMD –	
						suicidality and			3.36 (-4.44,	
						depressive			-2.27), for anger	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						symptoms. There			in males SMD	
						was also an effect			-0.65 (-1.27,	
						estimate of a second			-0.03), for anger	
						study for depressive			in females SMD	
						symptoms, but			-3.00 (-3.64,	
						because of different			-2.36), for anxiety	
						formats of reporting			SMD -1.40	
						it could not be			(-1.99, -0.81), for	
						pooled with the first			general	
						one. However, these			psychiatric	
						findings also tended			pathology SMD	
						towards better			-1.19 (-1.76,	
						results in participants			-0.61)	
						given omega-3 fatty			Antidepressants	
						acids.			Amitriptyline for	
						Tolerability and			depression SMD	
						safety – Tolerability			-0.59 (-1.12,	
						did not differ for any			-0.06). No	
						drug-placebo			significant effects	
						comparison, i.e. drug			for miansein,	
						treatment was not			fluoxetine,	
						associated with a			fluvoxamine or	
						higher ratio of non-			phenelzine	
						completers than was			sulphate.	
						placebo treatment.			Other drugs	
						Detailed data on			Omega-3 fatty	
						adverse effects were			acids for	
						available for			sucidality RR 0.52	
						olanzapine			(0.27, 0.95), for	
						treatment.			depression RR	
						Participants treated			0.48 (0.28, 0.81)	
						with this drug were,			and SMD -0.34	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						overall, no more			(-1.15, 0.46).	
						likely to experience			Tolerability and	
						any adverse effect			safety ⁴	
						than were members			Olanzapine for	
						of the control group.			adverse events	
						Adverse effects were			RR 1.13 (1.00,	
						also reported in			1.28), for weight	
						detail for topiramate			gain RR 1.05	
						treatment. Data on			(0.90, 1.20),	
						the frequency of			increased	
						memory problems,			appetite RR 2.78	
						trouble in			(1.75, 4.34),	
						concentrating,			somnolence RR	
						headache, fatigue,			2.97 (1.75, 5.03),	
						dizziness, menstrual			dry mouth RR	
						pain and			2.24 (1.08, 4.67),	
						paraesthesia were			sedation RR 9.23	
						also available for one			(2.18, 39.12) and	
						RCT, with no			RR 1.26 (0.44,	
						significant difference			3.66). Topiramate	
						in frequency			on weight loss	
						between the			SMD -0.55 (-0.91,	
						topiramate and			-0.19).	
						placebo groups			Haloperidol on	
						comparison.			weight gain SMD	
						Drug vs drug - Two			-0.18 (-0.70, 0.34)	
						FGAs, loxapine and			Phenelzine	
						chlorpromazine,			sulphate on	
						were compared in			weight gain SMD	
İ						one study with 80			0.11 (-0.39, 0.61)	
						participants.			Effect sizes drug	

⁴ Please note blood measures are available but not reported here

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis Other							
						Tolerability did not			vs. drug	
						differ significantly.			comparisons	
						However, there was			Phenelzine	
						no usable			sulphate superior	
						information on any			to haloperidol for	
						pathology-related			depression SMD	
						outcome. Two			-0.68 (-1.19,	
						antidepressants were			-0.17), anxiety	
						compared with the			SMD -0.66	
						FGA haloperidol. The			(-1.16, -0.15),	
						tricyclic			general	
						antidepressant			psychiatric	
						amitriptyline did not			pathology SMD	
						differ significantly			-0.53 (-1.03,	
						from haloperidol			-0.03), improving	
						treatment for any			mental health	
						outcome. The			status SMD 0.51	
						monoamine oxidase			(0.01, 1.01).	
						inhibitor phenelzine			Olanzapine had	
						sulphate, however,			more weight gain	
						proved to be superior			than fluoxetine	
						to haloperidol in the			SMD 0.98 (0.20,	
1						reduction of			1.76), and more	
						depression and			mild sedation RR	
						general psychiatric			3.50 (1.23, 9.92).	
						pathology, and in			No significant	
						improving mental			effect sizes	
						health status as			reported for any	
						investigated in one			other drug vs.	
						study. No significant			drug	
						effect was found for			comparisons.	
						the comparison of				
						the SGA olanzapine				
						with the				
						antidepressant				
						fluoxetine for any				
						pathology related				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						outcome. Drug vs combination of drugs - One trial tested the effects of olanzapine and fluoxetine separately against their combination. There was no significant difference indicating any benefits from combined treatment v. treatment with olanzapine or fluoxetine alone. Tolerability did not differ significantly. Detailed data were available for body weight change, the frequency of restlessness and mild sedation. There was no significant difference.				
Leiberich, P., Nickel, M.K., Tritt, K., & Gil, F.P. (2008). Lamotrigine treatment of aggression in female borderline patients,	RCT Level 2 Double blind RCT, which was broken after the conclusion of final testing in the initial	LG Group n = 18 PG Group n=9	Diagnosis of BPD had to be confirmed by means of an interview with SCID II. Sample was All women. LG Group - mean age 29 PG Group - mean age 28	In the initial 8 week study: Lamotrigine was titrated from 50 mg in the first 2 weeks, to 100 mg in the third week, then to 150 mg in the fourth and	Placebo initially provided for 8 weeks. After 8 weeks, blind was broken and participants randomised to placebo took neither lamotrigine or placebo.	Summary: Lamotrigine - significant reduction in anger and aggression measured by the STAXI than placebo. No serious side effects but some adverse events during the trial: self- mutilation (LG),	State-Trait Anger Expression Inventory (STAXI)	8 weeks for initial blinded treatment period. 18 month long-term follow-up observations were reported, after	Standardised change scores between baseline and follow-up for lamotrigine group: STAXI Anger-In d = -1.41 (95% CI -2.15, -0.67) STAXI Anger-Out d = -2.95 (95% CI -4.16, -1.74)	The study was limited in sample size with particularly high drop out in the former control group and also limited due to the

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
part ii: An 18-month follow-up. Journal of Psychophar macology, 22(7), 805- 808 Germany	trial (8 weeks) 2:1 randomisa tion		Participants were outpatients referred through "family doctors".	fifth weeks, and finally to a dose of 200 mg/day in the sixth, seventh and eighth weeks. 200 mg/day lamotrigine continued to be taken up to 18 months.		attempted suicide (placebo) and weight loss (both) Detail: The LG experienced significantly greater changes than the placebo/Ex-PG on all STAXI scales. No serious side effects were observed. In isolated cases, relatively mild rash, dizziness, headache and nausea were reported. Two subjects from the Ex-PG and one from the LG engaged in self-mutilation and one from the Ex-PG attempted suicide during the study. In addition, weight loss was observed after eighteen months treatment. In the LG, weight loss was no more significant than in the PG.		blinding was discontinued .	STAXI State Anger d = -4.08 (95% CI -5.68, -2.42) STAXI Trait Anger d = -3.98 (95% CI -5.55, -2.42) Weight d = -0.12 (95% CI -0.65, 0.41) Standardised change scores between baseline and follow-up for placebo group: STAXI Anger-In d = 1, (95% CI -0.38, 2.39) STAXI Anger-Out d = 0.10 (95% CI -1.04, 1.23) STAXI State Anger d = -0.03 (95% CI -1.16, 1.10) STAXI Trait Anger d = 0.22 (95% CI -0.93, 1.36) Weight d = 0.09 (95% CI -1.04, 1.23) Standardised mean difference between treatment and control at follow-up: STAXI Anger-In d = -3.29 (95% CI	discontinua tion of blinding after 8 weeks of treatment. QC 1.1=A 1.2=B 1.3=B 1.4=A 1.5=A 1.6=C 1.7=A 1.8=22.2% and 66.7% 1.9= A 1.10=F 2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Loew, T.H.,	RCT	N=56	TG	100mg	Initially placebo	Summary:	SCL-90-R	10 weeks for	-4.95, -1.62) STAXI Anger-Out d = -3.45 (95% CI -5.16, -1.75) STAXI State Anger d = -3.94 (95% CI -5.76, -2.12) STAXI Trait Anger d = -5.87 (95% CI -8.20, -3.53) Weight d = -2.06 (95% CI -2.71, -1.41) Accurate effect	QC
& Nickel, M.K. (2008). Topiramate treatment of women with borderline personality disorder, part ii: An open 18- month follow-up. Journal of Clinical Psychophar macology, 28(3), 355- 357. Austria/Ger many	Level II	Topiramat e n = 28 Placebo n = 28	(Topiramate G roup) vs PG (placebo group) Age [in yrs]: TG, 24.9 ± 5.3; PG, 25.6 ± 5.7 Ever been treated with psychotherapy: TG, n = 15 [53.6%]; PG, n = 13 [46.4%] Ever been treated with psychopharma cological therapy: TG, n = 26 [92.8%]; PG, n = 27 [96.4%] Ever been	topiramate daily. After blind was broken, participants in the intervention group continued to take topiramate.	controlled but after blind was broken, former placebo group received no intervention.	Topiramate - reduction in aggressive behaviour, anxiety and phobias, obsessiveness, depression, paranoia, interpersonal problems, pain, improved health and activity related measures, and affective instability. No effect on psychoticism. Mild-moderate side- effects usually with initiating or increasing dose No significant change occurred on the scale that depicts relatively borderline	SF-36 Inventory of Interpersonal Problems	initial blinded treatment period. 18 month long-term follow-up observations were reported, after blinding was discontinued .	sizes cannot be calculated (except for changes in weight) because no means were provided. Estimate of the standardised mean difference between intervention and control group for psychological variables using p value: d = -0.71 (95% CI -0.76, -0.17) Standardised change in weight between baseline and follow-up for topiramate	1.1=A 1.2=B 1.3=B 1.4=A 1.5=A 1.6=A 1.7=A 1.8=21.4% and 25% 1.9= A 1.10=F 2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			for psychiatric			It is possible that			(95% CI -0.99,	
			disorders: TG,			topiramate exerts a			-0.19); and for	
			n = 6 [21.4%];			merely modulating			placebo group d =	
			PG, n = 7			effect on aggressive			0.25, (95% CI	
			[25.0%])			expansive traits.			-0.13, 0.62).	
			Depressive						Standardised	
			disorders: TG,			Detail: Topiramate si			mean difference	
			n = 20			gnificantly reduced			between	
			[71.4%]; PG, n			health-related			intervention and	
			= 21 [75.0%]			impediments to			control group for	
			Anxiety			physical activities,			weight: d = -2.06	
			disorders: TG,			increased the ability			(95% CI -2.71,	
			n = 15			to engage in specific			-1.41)	
			[53.6%]; PG, n			activities, reduced				
			= 14 [50.0%]			physical pain,				
			Obsessive-			improved personal				
			compulsive			assessment of one's				
			disorders: TG,			own health,				
			n = 3 [10.7%];			increased vitality,				
			PG, n = 4			reduced restrictions				
			[14.3%]			in social and				
			Somatoform			vocational activities,				
			disorders: TG,			and significantly				
			n = 17			improved the				
			[60.7%]; PG, n			emotional state of				
			= 18 [64.3%])			health.				
			BPD			The increased				
			diagnosed by			affective stability and				
			SCID.			reduction of pain also				
						conform to the				
						findings of previous				
						studies.				
						Significant changes				
						were seen on all				
						scales of the SCL-90-				
						R (P < 0.01), except				
						psychoticism, and on				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						the Global Severity				
						Index (P < 0.01).				
						These findings				
						conform to previous				
						reports of clear				
						improvements not				
						only in aggressive				
						behaviour but also in				
						anxiety and phobias.				
						They also				
						corroborate and				
						expand findings from				
						the initial study on				
						obsessiveness,				
						depression, and				
						paranoid ideation.				
						On the other hand,				
						topiramate does not				
						seem to be effective				
						in treating				
						psychoticism.				
						In comparison to the				
						placebo, topiramate				
						resulted in significant				
						improvement on 5				
						scales of the German				
						Language Version of				
						the Inventory of				
						Interpersonal				
						Problems.				
						Some side effects:				
						but are are mild to				
						moderate, often				
						occurring only when				
						topiramate is				
						initiated or increased				
						in dose.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
McMain,	RCT	Treatment	Age mean (SD)	Dialectical	General	Summary: both	Structured	Assessed at	Risk of suicide	QC
S.F., Links,		n=90	T=29.4±9.2	behaviour	psychiatric	groups improved on	Clinical	baseline and	and self-injurious	1.1=A
P.S., Gnam,	Level II	Control	C= 31.3±10.6	therapy.	management.	most measures,	Interview for	every 4	episodes	1.2=A
W.H.,		n= 90				except the utilization	DSM-IV Axis I	months over	rpb=0.89	1.3=A
Guimond,			Gender	Multimodal:	Consisted of	of non-study	Disorders-	the 1-year		1.4=F
T., Cardish,		The	Female (n, %)	Individual	case	treatments	Patient Edition	active	Symptom severity	1.5=A
R.J.,		primary	T= (81, 90%)	sessions (1	management,	decreased	International	treatment	(ZRSBPD) rpb	1.6=A
Korman, L.,		goal to	C= (84, 82.2%)	hour weekly);	dynamically	significantly more in	Personality	phase	=1.13	1.7=A
& Streiner,		eliminate		skills group (2	informed	the DBT group than	Disorder			1.8=Treatm
D.L. (2009).		behaviour	DSM-IV	hours weekly);	psychotherapy,	in the general	Examination		Depression (BDI)	ent 39%;
Α		al	criteria for	phone	and symptom-	psychiatric			rpb =1.07	Control
randomized		dyscontrol	BPD via	coaching (2	targeted	management group	Treatment		Anger (State-Trait	38%
trial of		by helping	Structured	hours weekly).	medication		fidelity:		Anger Expression	1.9= A
dialectical		patients to	Clinical	,,	management.	Detail: The utilization	modality		Inventory - Anger	1.10=F
behaviour		develop	Interview	Consultation		of non-study	specific		out) rpb =0.32	2.1 = (+)
therapy		more		team for	Individual	treatments	adherence		, .	. ,
versus		effective	Inclusion:	therapists	sessions (1 hour	decreased	scales		Health-related	
general		coping	Patients had	mandated (2	weekly)	significantly more in			QoL (EQ-5D) rpb	
psychiatric		strategies.	to meet DSM-	hours weekly).	including	the DBT group than	Frequency and		=0.24	
managemen			IV criteria for	,,	medication	in the general	severity of			
t for			BPD, be 18–60	Organized	management	psychiatric	suicidal and		Symptom distress	
borderline			yrs of age, and	according to a	based on	management group	non-suicidal		(SCL-90-R) rpb	
personality			have had at	hierarchy of	structured drug	(odds ratio=0.52,	self-injurious		=0.68	
disorder.			least two	targets:	algorithm.	p=0.002).	behaviour			
The			episodes of	suicidal,			episodes:		Interpersonal	
American			suicidal or	treatment-	Therapist	The mean adherence	Suicide Attempt		functioning	
journal of			nonsuicidal	interfering,	supervision	scores for essential	Self-Injury		(Inventory of	
psychiatry,			self-injurious	and quality-of-	meeting	interventions were	Interview		Interpersonal	
(12), 1365-			episodes in	life-interfering	mandated (90	significantly greater			Problems-64) rpb	
1374			the past 5 yrs,	behaviours.	minutes	than the mean	Borderline		=0.45	
			at least one of		weekly). Focus	adherence score for	symptoms:			
Canada			which was in	Explicit focus	is expanded	proscribed dialectical	Zanarini Rating			
			the 3 months	on self-harm	away from self-	behaviour therapy	Scale for BPD			
			preceding	and suicidal	harm and	items across all time				
			enrolment.	behaviour.	suicidal	points.	General			
					behaviours.		symptoms:			
			Exclusion:	Treatment		Both groups showed	Symptom			

Design/ Level of Evidence	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Were limited	involves:	Psychodynamic	statistically	Checklist-90-			
	to having a	dialectical	approach	significant decreases	Revised			
	DSM-IV	strategies,	emphasized the	in the frequency of				
	diagnosis of a	irreverent and	relational	suicidal episodes	State-Trait			
	psychotic	reciprocal	aspects and	(odds ratio=	Anger			
	disorder,	communicatio	early	0.23, p=0.01) and	Expression			
	bipolar	n style, formal	attachment	nonsuicidal self-				
	disorder,	skills training.	relationships.	injurious episodes	Inventory			
	delirium,			(odds ratio = 0.52,	Beck Depression			
	dementia, or	Behavioural	Disturbed	p=0.03).	Inventory			
	mental	strategies:	attachment					
	retardation or	exposure,	relationships	There were no	Inventory of			
	a diagnosis of	contingency	related to	between group	Interpersonal			
	substance	management,	emotion	differences in the	Problems, 64-			
	dependence	diary cards,	dysregulation as	frequency of suicidal	item version			
	in the	behavioural	a primary	episodes or				
	preceding 30	analysis.	deficit.	nonsuicidal self-	Health-related			
	days; having a			injurious episodes.	quality of life:			
	medical	Patients	Involves		EQ-5D			
	condition that	encouraged to	attention to	Those with any	thermometer			
	precluded	rely on skills	signs of	suicidal or	Treatment			
	psychiatric	over pills	negative	nonsuicidal self-	History			
	medications;	where	transference.	injurious episodes	Interview: self-			
	living outside	appropriate		experienced a	reported counts			
	a 40-mile	(e.g.,	Patients were	significant decrease	of the number			
	radius of	anxiolytics).	encouraged to	in the medical risk	of hospital			
	Toronto;		use medications	over time, but there	admissions,			
	having any	Tapering from	concurrently.	was no between-	days in hospital,			
	serious	medications		group difference.	emergency			
	medical	was a		Haine mained offered	department			
	condition	treatment		Using mixed-effects	visits,			
	likely to	goal.		linear growth curve	medications,			
	require			analyses, significant	and outpatient			
	hospitalization			decreases over the 1-	psychosocial			
	within the			year treatment	treatments.			
	next year (e.g., cancer);			period (but no between-group	Reasons for			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						differences) were found for the following variables: borderline symptoms, depression, interpersonal functioning, symptom distress, and anger. On health-related quality of life (based on the EQ-5D thermometer), both groups reported improvements, but these changes were not statistically significant. Based on generalized-estimating-equation analysis, participants in both groups showed statistically	Early Termination From Treatment Questionnaire			
						significant decreases in the total number of emergency department visits (odds ratio=0.43, p<0.0001), with no statistically significant differences between groups.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			ounc.			Both groups demonstrated statistically significant reductions in the number of emergency department visits for suicidal behaviour (odds ratio= 0.35, p<0.0001), with no between-group differences.				
Mercer, D., Douglass, A.B., Links, P.S. (2009) Meta- analyses of mood stabilizers, antidepress ants and antipsychoti cs in the treatment of borderline personality disorder: Effectivenes s for depression and anger symptoms. J Personal Disord.	SR Level 1	N = 18 studies were included in the final meta analyses	Adults with more female than males (73% female). Number of participants ranged from 16 – 96. Range of treatment is detailed under interventions. 61% included subject with dysthymia or major depression. 9 of the studies include concurrent TX. 5 studies excluded if concurrent	Olanzapine vs placebo - 3 studies Fluoxetine vs placebo - 3 studies Tranylcypromi ne trifluoperazine carbamazepin e vs placebo - 1 study? Divalproic acid vs placebo - 3 studies Topiramate - 3 studies Aripiprazole vs placebo - 1	Varied by study	Summary: Antidepressants moderately effective for short-term reduction of depression. Mood stabilisers highly effective for anger, moderately effective for depressed mood Antipsychotics moderately effective for anger, depression. Some evidence that haloperidol may worsen depression. Detail: Studies assessing anger Mood Stabilizers – MA showed that as class mood stabilizers are highly effective	Depression Hamilton Rating Scale for Depression (HDRS) – 7 studies Variable Symptom Checklist – 90 (SCL-90) Depression – 3 studies Beck Depression Inventory (BDI) – 2 studies Anger SCL-90 Hostility – 5 studies Overt Aggression	5 – 24 weeks	Whilst there were large variations between studies of anger reduction, significant pooled effect sizes were found for all three drug types Two longer term studies with divalproic acid (12 and 24 weeks) had negligible effect sizes Mood stabilizers gave the largest reduction in anger/aggression compared to the other drug types, with an effect size d = -1.75 (95% CI -2.77, -0.74).	Limitations – small numbers of studies in each class – 8 mood, 7 ADs and 6 APs. QC 1.1 = A 1.2 = A 1.3 = B 1.4 = B 1.5 = A 2.1 (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
74.			psychotherapy			anger in BPD –	Modified (OAS-		d = -0.74 (-1.27,	
				Fluvoxamine		studies with largest	M) – 3 studies		-0.21),	
Canada			None of the	vs placebo- 1		effective sizes were	,		antipsychotic d =	
			studies	study		short in length	State-Trait		-0.59 (-1.04, -	
			included	,		Antipsychotics – MA	Anger		0.15).	
			patient with	Amitriptyline		suggest that as a	Expression		For depressed	
			substance	haloperidol vs		class, APs have	Inventory		mood symptoms,	
			abuse and	placebo – 1		medium effect on	(STAXI) – 5		mood stabilisers	
			most excluded	study		anger in BPD in short	studies		again gave	
			patients with			and medium terms.			greatest	
			suicidal	Phenelzine		Further studies on	Profile of Mood		reduction d=-0.63	
			ideation.	haloperidol vs		efficacy of olanzapine	States (POMS) –		(-0.99, -0.27);	
			33% of	placebo – 1		in BPD are needed.	1 study		antidepressants	
			included	study		Antidepressants –			d = -0.37 (-0.69,	
			participants in			MA suggests that ADs	Note: Two other		-0.05),	
			the meta-	lamotrigine vs		as a class with	measures		antipsychotic d =	
			analysis were	placebo – 1		exception of tricyclics	developed by		-0.46 (-0.94,	
			selected for	study		are moderately	researchers		0.03).	
			difficulty with			effective for short	were included			
			aggression,			term. All studies in				
			prominent			this group included				
			behavioural			some patients with				
			dyscontrol or			depression and other				
			anger.			concurrent TX.				
						Caution required as				
						only short term				
						measured.				
						Studies of depression				
						mood:				
						Mood stabilizers –				
						MA suggests mood stabilizers were				
						moderately effective				
						for depression in				
						BPD. Effect size was				
						overestimated and				
						only 4/8 studies				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			included measures for depression. Antidepressants – MA of all 7 studies included measures of depression but only small effect of AD was shown. Antipsychotics - MA showed a medium effect on symptoms of depression. However CI crossed zero. One study suggestion that haloperidol had effect on anger but could worsen depression.				
Morey, L.C., Lowmaster, S.E., & Hopwood, C.J. (2010). A pilot study of manual- assisted cognitive therapy with a therapeutic assessment augmentati on for borderline personality	RCT Level	Treatment n=8 Control n= 8	Age mean (SD): Treatment 32.5±9.41; Control 29.63±8.72 Gender – female (n, %): Treatment 7 (87.5%), Control 6 (75%) Diagnosis: BPD via Diagnostic	Manual- Assisted Cognitive behaviour Therapy (MACT) + Therapeutic Assessment (TA) 6 sessions MACT is a 6- session, manualized therapy that targets deliberate	MACT alone 6 sessions	Summary: Reduction in both conditions on BPD symptoms, suicide and self-harm among those that completed treatment, especially affective instability Detail: No significant retention rate differences between conditions were observed, with four MACT condition (50%) and five TA+MACT condition (63%) participants	Borderline measures: Diagnostic Interview for DSM-IV Personality Disorders DIPD-IV Personality Assessment Inventory (PAI) Borderline Features scale (BOR) with four		Effect sizes between groups: Number of sessions attended: d = -0.16. Standardised mean difference for treatment completers: in MACT+TA: PAI-BOR d=0.95 BOR-A d=4.35 BOR-I d=0.57 BOR-N d=0.82 BOR-S d=0.52 PAI-SUI d=1.72	6 of 7 completers were concurrentl y being treated with medication s whereas only 3 of 9 non- completers were being treated with medication s,

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Psychiatry Research, 178(3), 531- 535. USA	Evidence		_	incorporating elements of other cognitive-based interventions for BPD. In addition to the standard MACT orientation material, the first session also included an individualized collaborative assessment. This procedure included developing questions that the client		six sessions of treatment. Among those who did complete treatment, significant improvements were observed in both conditions with respect to reducing both borderline symptomatology and suicidal ideation. For those who completed treatment there was a substantial and significant main effect for change in PAI-BOR from baseline to post-treatment. Analyses of BOR subscales suggest a significant change in affective	(Affective Instability, Identity Disturbance, Negative Relationships, and Self-Harm) Personality Diagnostic Questionnaire (PDQ-4) — Borderline scale Suicidal ideation: Personality Assessment Inventory Suicidal Ideation (SUI) Suicide Probability		SPS-S d=1.75 Standardised mean difference for treatment completers: in MACT: PAI-BOR d=1.22 BOR-A d=0.85 BOR-I d=0.93 BOR-N d=0.31 BOR-S d=0.56 PAI-SUI d=2.27 SPS d=0.56 SPS-SI d=0.77 Carry-forward effect sizes are also available in the paper. They are more conservative than those presented.	that concurrent psychiatric care may promote retention in MACT QC 1.1=A 1.2=B 1.3=C 1.4=F 1.5=A 1.6=A 1.7=A 1.8=MACT + TA: 63% failed to completed all 6 sessions of treatment; MACT: 50%
			on the SPS total and d) N5 BPD symptoms on the DIPD-IV. Participants were excluded if they exhibited an active psychosis, a history of schizophrenia,	would like to "ask the test data" about themselves and the articulation of		instability and a moderately significant change in self-harm. No significant differences in treatment response across study groups were found for borderline features, although large differential changes in BOR-A were	Scale (SPS) with four subscale scores: Hopelessness, Suicidal Ideation, Negative Self- Evaluation, and Hostility.			failed to completed all 6 sessions of treatment 1.9= B 1.10=F 2.1 = (+)

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of Evidence		Gender							
	Evidence		Diagnosis Other							
			or substance	client		observed that				
			intoxication or	discussed the		approached				
			withdrawal	assessment		significance,				
				results and		suggesting superior				
				motivational		treatment response				
				feedback was		in the TA+MACT				
				provided, in		group.				
				addition to		With regard to				
				implementing		suicidal ideation,				
				the second		participants reported				
				MACT session.		substantial and				
				Aside from		significant decreases				
				these		on both the PAI-SUI				
				augmentation		and SPS-SI. Again, a				
				s to the first		trend for a group-by-				
				two sessions,		time interaction was				
				the manual		found for SPS-SI, also				
				for the		suggesting a larger				
				remainder of		improvement over				
				the treatment		time in the TA+MACT				
				was identical		group.				
				for both		To examine client				
				conditions.		improvement at the				
						individual level,				
						reliable change				
						indices (RC) were				
						computed to				
						determine whether				
						the MACT treatment				
						significantly				
						improved borderline				
						symptomatology and				
						suicidal ideation. Of				
						the 7 participants				
						who completed				
						treatment, 5 (71%)				
						showed significant				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			reductions on PAI-		1		
						BOR. With regard to				
						suicidal symptoms, 3				
						of the 7 participants				
						(43%) demonstrated				
						significant				
						improvement on the				
						SPS and 6 out of 7				
						(86%) had significant				
						decrement in suicidal				
						ideation as measured				
						by the PAI-SUI. For all				
						participants: Using				
						carry-forward				
						methodology to				
						provide a more				
						conservative				
						estimate of changes				
						observed, there was				
						significant main				
						effect for change in				
						PAI-BOR from				
						baseline to post-				
						treatment. With				
						respect to suicidal				
						ideation, significant				
						decreases were				
						observed on the PAI-				
						SUI and SPS-SI. No				
						significant differences in				
						treatment response across groups were				
						found for borderline				
						features or suicidal				
						ideation using this				
						more conservative				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						carry-forward approach.				
Schuppert, H., Giesen- Bloo, J., van Gemert, T.G., Wiersema, H.M., Minderaa, R.B., Emmelkamp, P.M., & Nauta, M.H. (2009). Effectivenes s of an emotion regulation group training for adolescentsA randomized controlled pilot study. Clinical Psychology & Psychothera py, 16(6), 467-478.	RCT Level II 4 block randomisa tion	N=43 ERT+TAU = 23 TAU=20	Age: ERT+TAU=16.2 3yo; TAU=15.9 Gender: ERT+TAU=95.6 % FM; TAU=80% FM	Emotion Regulation Training (ERT): 17 sessions, one systems meeting and two booster sessions. The main goal of the training is to introduce alternative ways of coping with affective instability, daily stressors and psychological vulnerability. Reducing self- harm or harm to others is another important issue. The adolescents learn that they can take more responsibility for their	Treatment as usual (TAU): medication, individual psychotherapy, system-based therapy, inpatient psychiatric care and emergency services in case of self-harm or suicidal behaviour.	Summary: BPD symptoms and internal locus of control improved over time in ERT group Detail: Repeated measure ANOVAs indicated improvement over time, measured by the total score of the BPDSI-IV (F [1,29] = 6.39; p = 0.02) The other primary outcome measures demonstrated no significant improvement over time (BPDSI-IV subscale affect regulation (F [1,29] = 2.06; p = 0.16) and internal locus of control as measured by the MERLC (F [1,24] = 0.49; p = 0.49)). According to the secondary outcome measures, a trend over time was found	BPDSI-IV to assess current severity and frequency of DSM-IV BPD symptoms. The Multidimension al Emotion Regulation Locus of Control (MERLC) The Youth Self Report (YSR)	Post treatment	BPDSI-IV total score = 0.27 BPDSI-IV affective stability = 0.33 MERLC subscale internal locus of control = -0.49 YSR subscale internalizing = 0.04 YSR subscale externalizing = 0.15	QC 1.1=A 1.2=A 1.3=E 1.4=B 1.5=B 1.6=B 1.7=B 1.8=6.5% drop from assessment to randomisati on; 39% loss to second assessment ERT & 15% in TAU; 1.9= D 1.10=E 2.1 = (-)
Netherlands				behaviour and		on the internalizing				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
				realize they		subscale of the YSR (F				
				have a choice		[1,23] = 4.10; p =				
				in how to		0.06), but no				
				(re)act when		significant effect on				
				emotionally		the externalizing				
				distressed.		subscale of the YSR (F				
						[1,24] = 2.61; p =				
						0.12).				
						Repeated measure				
						ANOVAs on the				
						BPDSI-IV showed that				
						there was no				
						significant level of				
						change between				
						groups for both the				
						total and the				
						subscale affective				
						stability of the BPDSI-				
						IV (BPDSI-IV total				
						score F [1,29] = 0.07;				
						p = 0.79; BPDSI-IV				
						subscale affect				
I						regulation F [1,29] =				
						0.24; p = 0.63).				
						Other primary				
						outcome measures:				
						significant interaction				
						effect on the				
						adolescents' MERLC				
						subscale internal				
						locus of control (F				
						[1,24] = 9.16; p =				
						0.006).				
						Adolescents in the				
						ERT group reported				
						an improvement in			1	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			their feeling of having control over their emotions, whereas the adolescents in the TAU alone group reported a decrease of internal locus of control. The secondary outcome measures for the adolescents showed no significant effect between groups, measured by the YSR, internalizing and externalizing subscales (YSRintern F [1,23] = 0.32; p = 0.58; YSRextern F [1,24] = 0.06; p =				
Shafti, S.S., & Shahveisi, B. (2010). Olanzapine versus haloperidol in the managemen t of borderline personality disorder: A randomized	RCT Level 2 8 week, parallel group, comparati ve double- blind RCT (olanzapin e vs. haloperido l)	N=28	All females Age: Olzanzapine Group: 30.09 (±8.71) Haloperidol Group: 28.88 (±7.66). The patients were excluded if comorbid	Olanzapine The drugs were started at 2.5 mg daily and then individually increased weekly by 2.5- mg increments, as needed or tolerated, to a maximum of	Haloperidol (used identical looking capsules).	0.82). Summary: Both olanzapine and haloperidol improved but no difference between them – no placebo control group Detail: All of the patients from within both groups completed the study. Intragroup analysis at the eighth week	Brief Psychiatric Rating Scale (BPRS) Clinical Global Impression- Severity (CGI-S) Buss-Durkee Hostility Inventory (BDHI) (has 8 subscales:	Measured at baseline and after 8 weeks.	The effect size was calculated for changes on the BPRS, BDHI, and CGI-S at the end of treatment, which indicated a large (d ≥ 0.8), readily observable improvement with both olanzapine	QC 1.1=B 1.2=B 1.3=B 1.4=A 1.5=A 1.6=B 1.7=A 1.8= 0% both groups 1.9=B 1.10=F

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comment
double-			MH was	10 mg by		interval revealed	Assault, Indirect		(Cohen d = 1.40,	2.1 = (+)
blind trial.			present,	week 4.		significant positive	Hostility,		effect-size r =	, ,
Journal of			including	The dose		response by both	Irritability,		0.574; Cohen d =	
Clinical			major	established by		olanzapine and	Negativity,		1.56, effect-size r	
Psychophar			depressive	week 4 was		haloperidol in	Resentment,		=0.615; and	
macology,			disorder,	held constant		comparison with the	Suspicion,		Cohen d = 0.759,	
30(1), 44-			bipolar	throughout		baseline (P < 0.05);	Verbal Hostility,		effect-size r =	
47.			disorder,	the remainder		however, between-	and Guilt.)		0.354,	
			psychosis or	of the study.		group analysis			respectively) and	
Iran			substance			showed no significant			haloperidol	
			dependency in			difference, among			(Cohen $d = 2.67$,	
			Axis I, mental			the patients.			effect-size r =	
			retardation in			The analysis of			0.801; Cohen d =	
			Axis II, or			specific Brief			1.06, effect-size r	
			identifiable			Psychiatric Rating			= 0.471; and	
			neurological			Scale subscales in			Cohen d = 0.749,	
			morbidity in			both groups revealed			effect-size r =	
			Axis III.			considerable and			0.350).	
			No other			comparable				
			concurrent			improvements in				
			psychotropic			anxiety, tension,			Standardised	
			medication or			depressive mood,			mean difference	
			psychosocial			and hostility.			between	
			interventions			There was a			haloperidol and	
			were allowed			significant positive			olanzapine at	
			during the			response with both			follow-up:	
			trial.			olanzapine and			BPRS d = 0.22	
						haloperidol at the			(95% CI -0.53,	
			Inpatients			end of the trial in			0.96)	
						comparison with the			BDHI d = -0.02	
						baseline on the			(95% CI -0.76,	
						BPRD, BDHI and CGI-			0.72)	
						S.			CGI-S d = -0.32	
						Although olanzapine			(95% CI -1.07,	
						caused more			0.42)	
		1		1	1	decrement, the				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			between group				
						analysis showed no				
						significant difference.				
						Analysis of specific				
						BPRS subscales in				
						both groups revealed				
						similar and				
						significantly lower				
						scores in anxiety,				
						tension, depressive				
						mood, and hostility.				
						In this respect,				
						olanzapine showed				
						appreciably better				
						results on				
						suspiciousness and				
						excitement.				
						A similar pattern was				
						seen by haloperidol				
						on				
						uncooperativeness				
						and unusual thought				
						content.				
						Side effects were				
						mild and well				
						tolerated, no subject				
						failed to complete				
						the study.				
Soler, J.,	RCT	Treatment	Age mean (SD)	Dialectical	Standard group	Summary: mental	BPD core	13 weekly	Between group	QC
Pascual, J.C.	., Level II	n=29	T= 28.45 ±6.55	behaviour	therapy (SGT)	state and	symptoms:	sessions	standardised	1.1=A
Tiana, T.,		Control n=	C=29.98±5.63	therapy - Skills	The SGT format	psychopathology	Clinical Global		mean differences	1.2=A
Cebria, A.,		30	Gender	training (DBT-	was oriented to	scales showed	Impression-BPD		d (95% CI)	1.3=E
Barrachina,			Female (n, %)	ST)	provide a	significant difference	(CGI-BPD)		No. of	1.4=B
J., Campins,			T= (23, 79.3%)	DBT-ST and	relational	favouring DBT-ST.			medications, d=	1.5=B
M.J., Perez,			C= (26, 86.7%)	SGT, consisted	experience,		Hamilton Rating	1	-0.16 (-0.45, 0.13)	1.6=A

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
,	Level of		Gender					ionon ap	0.20	
	Evidence		Diagnosis							
			Other							
V. (2009).				of thirteen	allowing people	Detail: No significant	Scale-		No. of non-study	1.7=A
Dialectical			Diagnosis:	psychotherapy	with BPD to	differences of mean	Depression		tre, d = -0.39	1.8=Treatm
behaviour			BPD via	sessions of	share their	number of attended	(HRSD-17)		(-0.690, -0.10)	ent: 34%
therapy			Structured	120 min each,	characteristic	sessions between the			HRSD-17, d= -0.98	drop out;
skills			Clinical	2 therapists (a	difficulties.	two groups.	Hamilton Rating		(-1.52, -0.44)	Control:
training			Interview for	male and a	Prominent	DBT-ST group	Scale-Anxiety		HRSA, d = -0.68	63% drop
compared			DSM-IV Axis II	female) for	techniques used	showed a significant	(HRSA)		(-1.21, -0.16)	out;
to standard			Disorders	each group, in	were	improvement in			BPRS, d =-0.67	Intention to
group			(SCID-II) and	groups of 9–	interpretation	more psycho-	Psychotic		(-1.19, -0.14)	treat
therapy in			the Revised	11	(although this	pathology scales.	symptoms:		BDI Irritability, d =	analysis
borderline			Diagnostic	participants.	was not used	DBT-ST group	Brief Psychiatric		-0.61 (-1.13,	1.9= A
personality			Interview for	The DBT	systematically),	showed a greater	Rating Scale		-0.09)	1.10=F
disorder: A			Borderlines	format used	highlighting,	decrease in	(BPRS)		BDI Indirect	2.1 = (+)
3-month			(DIB-R).	was adapted	exploration,	depression, anxiety			Hostility, d=0.51	Large
randomised				from the	clarification and	and general	Psychiatric		(-1.03, 0.01)	differences
controlled			Exclusion:	standard	confrontation.	psychiatric symptoms	symptoms:		SCL-90-R GSI, d =	in retention
clinical trial.			Inclusion	version,	The therapists	compared with the	Symptom		-0.42 (-0.95, 0.09)	
Behaviour			criteria	applying one	mainly played a	SGT group.	Checklist,		SCL-90-R	
Research			consisted of:	of the four	role of	Regarding the SCL90-	Revised (SCL90-		Interperson, d =	
and			1) meeting the	modes of	conductor in	R, HLM analysis	R)		-0.81 (-1.34,	
Therapy,			DSM-IV	intervention:	group	showed statistically			-0.28)	
47(5), 353-			diagnostic	skills training.	interactions,	significant	Hostility/irritabil		SCL-90-R Hostility,	
358.			criteria for	DBT-ST	and targeted	differences in the	ity: Buss-		d = -0.34 (-0.85,	
			BPD;	included all	specially	psychoticism	Durkee		0.17)	
Spain			2) age	the original	nihilistic or	subscale, and in the	Inventory (BDI).		SCL-90-R	
			between 18	skills.	destructive	BDI irritability			Psychoticism, d =	
			and 45 yrs;		interactions,	subscale. A greater	Impulsivity:		-0.58 (-1.10,	
			3) no	These skills	characteristic	decrease was	Barrat Inventory		-0.06)	
			comorbidity	can be divided	BPD	detected in the DBT-	(BI).		CGI-BPD Global,	
			with	into those	interactions and	ST condition. Both			d = -1.02, (-1.57,	
			schizophrenia,	that promote	those that could	treatment conditions	In addition to		-0.48)	
			drug-induced	change,	interfere with	showed significant	clinical scales,		CGI-BPD Unstable	
			psychosis,	interpersonal	group	reductions in CGI-	they rated self-		rel, d = -0.29	
			organic brain	effectiveness	functioning.	BPD global severity	injury, suicide		(-0.80, 0.22)	
			syndrome,	and emotional	SGT	scores.	attempts, and		CGI-BPD	
	1		alcohol or	regulation	interventions	However, no	visits to		Impulsivity, d =	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comment
			other	skills, and	were led by two	significant	psychiatric		-0.62 (-1.15,	
			psychoactive	those that	experienced	differences were	emergency		-0.10)	
			substance	promote	psychodynamic-	displayed between	services.		CGI-BPD Suicide,	
			dependence,	acceptance,	oriented	groups in HLM	Services.		d = -0.10 (-0.61,	
			bipolar	mindfulness	psychotherapist	analysis.			0.41)	
			disorder,	and distress	S.	In this measure,			CGI-BPD Affect	
			mental	tolerance		several specific sub-			Instability, d =	
			retardation, or	skills.		scales, such as:			-1.08 (-1.63,	
			major	Similar to		anger, emptiness,			-0.53)	
			depressive	other skills		and affect instability,			CGI-BPD Anger,	
			episode in	training in		had a significantly			d = -0.85 (-1.38,	
			course;	behavioural		greater reduction in			-0.32)	
			4) Clinical	treatments,		DBT-ST compared to			CGI-BPD	
			Global	DBT-ST		SGT.			Emptiness, d=	
			Impression of	includes		No differences were			-0.44 (-0.95, 0.08)	
			Severity (CGI-	teaching, in-		seen in the other			CGI-Global	
			S) score ≥ 4;	session		scales (impulsivity) or			Improv-Patient,	
			5) no current	practice of		behavioural reports			d = 0.68 (0.16,	
			psychotherapy	new skills and		(number of self-harm			1.21)	
			•	homework		behaviours, suicides				
				assignments		or emergency visits)				
				to practice each skill		used in the study.				
				every week.						
				DBT-ST						
				intervention						
				was led by						
				two cognitive						
				behavioural						
				psychotherapi						
				sts with prior						
				experience in						
				BPD group						
				therapy						

Völling B.A., Systematic Rücker, G., Review ranged diagnosis of Timmer, A., Huband, N., Level 1	Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Völlm, B.A., Rücker, G., Timmer, A., Huband, N., Lieb, K. (2010) Pharmacolo gical intervention s for borderline personality disorder. Cochrane Database of Systematic Reviews. 16(6)	Systematic Review	samples ranged from n = 16 to 314 in size. In total, the included studies provided data from 1742	with a formal diagnosis of BPD according to DSM criteria. The studies were conducted in either the USA (14 studies) or in Western European countries (12 studies) 5 in Germany and/or Austria, two each in the UK and Spain, and one each in Belgium, Ireland and the Netherlands. There were two international multicentre trials. One took place in 13 study centres in the USA, South	defined combination of drugs administered on a long-term basis (i.e. not only in case of crisis only) with the intention to treat BPD	treatments were classified in four categories: • placebo; • active comparator drug; • combination of drugs; • combined treatment, i.e. drug plus concomitant psychotherapeu tic treatment or	severity was not significantly influenced by any drug. There was little evidence for effectiveness of antidepressants. There was little effect of antipsychotics but olanzapine may increase self-harming, weight gain Detail: First-generation antipsychotics (flupenthixol decanoate, haloperidol, thiothixene); second-generation antipsychotics (aripirazole, olanzapine, ziprasidone), mood stabilisers (carbamazepine, valproate semisodium, lamotrigine, topiramate), antidepressants (amitriptyline,	outcomes Overall BPD severity Severity of single BPD criteria according to DSM (avoidance of abandonment, dysfunctional interpersonal patterns, identity disturbance, impulsivity, suicidal ideation, suicidal behaviour, self- mutilating behaviour, affective instability, feelings of emptiness, anger, psychotic paranoid symptoms, dissociative symptoms) Secondary	Variable	RCTs have been included, covering 22 different comparisons in ten comparison categories. In the presence of the multitude of different comparisons and outcome variables, most results are based on single study findings only. The study sample sizes were rather small, and ranged, with exception of two large trials (Schulz 2007; N= 314; Zanarini 2007; N of patient data used here: 301), between 16 (Hollander 2001) and 108 (Soloff 1993; divided into	based on single study effect estimates. Long-term use of these drugs has not been assessed. Conclusions have to be drawn carefully in the light of several limitations of the RCT evidence that constrain applicabilit y to everyday clinical settings (among others, patients' characterist

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Europe.			phenelzine sulfate, mianserin), and dietary supplementation (omega-3 fatty acid) were tested. First-generation antipsychotics were subject to older trials, whereas recent studies focussed on second-generation antipsychotics and mood stabilisers. Data were sparse for individual comparisons, indicating marginal effects for first-generation antipsychotics and antidepressants. Adverse event data were scarce, except for olanzapine. There was a possible increase in self-harming behaviour, significant weight gain, sedation and changes in haemogram parameters with olanzapine. A significant decrease	Anxiety General psychiatric pathology: comprehensive measures Mental health status Attrition Adverse effects		power to detect significant effects was quite low. In addition, the overall robustness of findings must be considered low for the majority of comparisons.	interventions and observation periods). QC 1.1 = A 1.2 = A 1.3 = A 1.4 = A 2.1 = (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						observed with				
						topiramate				
						treatment.				
						All drugs were well				
						tolerated in terms of				
						attrition.				
						Direct drug				
						comparisons				
						comprised two first-				
						generation				
						antipsychotics				
						(loxapine vs.				
						chlorpromazine),				
						first-generation				
						antipsychotic against				
						antidepressant				
						(haloperidol vs.				
						amitriptyline;				
						haloperidol vs.				
						phenelzine sulfate),				
						and second-				
						generation				
						antipsychotic against				
						antidepressant				
						(olanzapine vs.				
						fluoxetine).				
						Data indicated better				
						outcomes for				
						phenelzine sulfate				
						but no significant				
						differences in the				
						other comparisons,				
						except olanzapine				
						which showed more				
						weight gain and				
						sedation than				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						fluoxetine. The only trial testing single versus combined drug treatment (olanzapine vs. olanzapine plus fluoxetine; fluxetine vs. fluoxetine plus olanzapine) yielded no significant differences in outcomes.				
Varghese, B.S., Rajeev, A., Norrish, M.A.I., Khusaiby, S.B.M., (2010) Topiramate for anger control: A systematic review. Indian Journal of Pharmacolo gy 42(3), 135-41. India	SR Level 1	n = 24 included topirmate. n=5 were included in final analysis.	Study participants were required to be aggressive adults. Studies included participants below 18 yrs of age provided that the mean age of participants clearly indicated that the majority of participants were adults.	Included studies were required to have at least one arm in which topiramate was used as intervention. BPD diagnosis = 3 studies Depression diagnosis = 1 study Chronic Backache diagnosis = 1 study	Placebo	Summary: With a fairly good quality of studies in the analysis, the study came to a conclusion that there is sufficient evidence to suggest that topiramate is significantly effective in stabilizing trait anger but appears to reduce state anger, anger-out anger-in and hostility. Detail: The reduction in the scores was highest in BPD patients as compared to those with low	(a) Four STAXI scales - State Anger, Trait Anger, Anger Out, Anger Control - or any equivalent measure of component or global response. The State Anger scale assesses the intensity of anger as an emotional state at a particular time. The Trait Anger scale measures how often angry	8-10 weeks.	CALCULATED weighted mean difference -3.16 (-3.64 to -2.68) in State Anger. Limited detail to allow for effect size calculation.	Primary search was Medline only, also did additional screening of Cochrane and PubMed The sample size was relatively small and the percentage of males included is
			Age range 16- 61 yrs, with a mean age of	Study 1 - The study dealt with women		to those with low back ache. Trait Anger dropped	often angry feelings are experienced			less compared to that of

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Other							
			41 yrs.	aged between		by -2.93 (-3.49 to -	over time. The			females.
			Studies were	20 and 35 yrs		2.37), especially in	Anger			The study
			conducted	who were		female BPD patients.	Expression and			duration
			among	more		'Anger In' reduced	Anger Control			was
			patients who	susceptible to		more or less	scales assess			generally
			suffered from	BPD than men		uniformly across the	relatively			only 8-10
			other types of	and STAXI was		studies by -1.43 (-	independent			weeks,
1			aggression,	used as the		1.84 to -1.03). 'Anger	anger-related			which
			including that	primary		Out' decreased by -	traits: (i)			reduced
			in BPDs.	outcome		2.8 (-3.19 to	expression of			the
			III DPD3.	measure.		-2.42). This effect	anger toward			incidence
				illeasure.		was minimal among	other persons			of adverse
				Study 2 – This		the male BPD	or objects in the			effects and
				study		patients.	environment			the
				conducted a		Anger Control	(Anger-Out), (ii)			dropout
				directed study		uniformly increased	holding in or			rate.
				for BPD in		across the four	suppressing			Tate.
				males wherein		studies by 2.32 (2.00-	angry feelings			qc
				the same		2.64).	(Anger-In) and			1.1 =B
				standards		There is sufficient	(iii) controlling			1.1 -B 1.2 =B
				(above) as the		evidence to suggest	angry feelings			1.3 =B
				previous study		that topiramate is	by preventing			1.4 =B
1				in females		significantly effective	the expression			1.5 =C
				were applied.		in stabilizing the	of anger toward			2.1 (+)
				There were 22		"trait anger" while	other persons			2.1 (+)
				subjects each		reducing the "state	or objects in the			
				in the		anger." "Anger Out"	environment or			
				topiramate		and "hostility" were	controlling			
				and placebo		significantly reduced.	suppressed			
				arms.		"Anger In" was the	angry feelings			
				aiiiis.		feature that was the	by calming			
				Study 3 – This		least affected,	down or cooling			
				was a 10-week		although this was	off (Anger			
				study, which		significant.	Control).			
1				enrolled 64		This suggests that	Individuals rate			
				subjects, and		topiramate is	themselves on			

Country [Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				grouped them into topiramate and placebo arms in a 1:1 ratio. Study 4 – This study on an unrelated condition, i.e. chronic low back pain, topiramate was titrated from 50 mg/day to 300 mg/day in 48 subjects. The effect was compared with a placebo group. Study 5 - In this study 56 females with BPD were randomized to receive topiramate 50-200 mg/day or placebo in a 1:1 ratio		effective in controlling anger. There was no suggestion of topiramate precipitating psychomorbidity. The studies varied in terms of inclusion criteria such as BPD, depression and even low back ache. There were separate studies for men and women.	the scales that assess both the intensity of their anger at a particular time and the frequency at which anger is experienced, expressed and controlled. (b) Symptoms: a change in self-reported feelings of anger and impulsiveness, either an increase or decrease in the frequency and severity. (c) Behaviour: a reduction in aggression, either to self or others; a reduction in impulsiveness.			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Zanarini, M.C., & Frankenbur g, R. (2008). A preliminary, randomized trial of psychoeduc ation for women with borderline personality disorder. Journal of Personality Disorders, 22(3), 284- 290 USA	RCT Level II	N= 50 Treatment n=30 Control n= 20	Age mean (SD) in total sample 19.3 ± 1.4 Gender – all female Diagnosis - BPD diagnosed with Diagnostic Interview for DSM-IV Personality Disorders and Revised Diagnostic Interview for Borderlines. These participants were being diagnosed for the first time. Additionally in terms of lifetime disorders, 78% met criteria for a mood disorder, 40% met criteria for a substance use	Psychoeducati on on BPD aetiology, phenomenolo gy, co- occurring disorders, treatment options and longitudinal course	Waitlist (took part in workshop at the end of the 12 week study)	Summary: Immediate psychoeducation after diagnosis can lead to reductions in interpersonal storminess and general impulsivity. This may be because increased knowledge may be more useful in helping people control behaviour rather than affects or cognition Detail: No significant difference in BPD symptoms on ZAN-BPD between groups over time. The mean scores of the groups as a whole declined significantly over time. Declines in interpersonal storminess and general impulsivity (not counting self-mutualisation or suicide) were found to be significantly greater among those in the immediate treatment group than the waitlist. There was no significant difference	Structured Clinical Interview for DSM-IV Axis I disorders Zanarini Rating Scale for DSM- IV BPD (ZAN- BPD) Sheehan Disability Scale (SDS) Knowledge of aspects of BPD	12 weeks	Between group standardised mean differences, d (95% CI): Two forms of impulsivity, d = -0.40 (-0.97, 0.174) Stormy relationships, d = -0.381 (-0.952, 0.190) Other details not reported to calculate effect sizes	QC 1.1=B 1.2=B 1.3=C 1.4=F 1.5=A 1.6=A 1.7=A 1.8=no drop out 1.9= A 1.10=F 2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			disorder, 28%			in SDS impairment				
			met criteria			ratings between				
			for an anxiety			groups. In vocational				
			disorder and			or social functioning				
			50% met			over time. There was				
			criteria for an			a trend for vocational				
			eating			but not social				
			disorder.			functioning to				
						improve over time				
			Exclusion:			for the group taken				
			current			as a whole.				
			psychiatric			Knowledge of BPD				
			treatment,			increased (6%				
			met criteria			answered 6+				
			for lifetime/			questions at baseline				
			current			but 78% answered 6+				
			schizophrenia,			correctly after)				
			schizoaffective							
			disorder or							
			bipolar 1 or							
			current							
			substance							
			dependence							
			(except							
			nicotine)							

Quality of Life

Country Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Bellino, S., Rinaldi, C., Bogetto, F. (2010) Adaptation of interperson al psychothera py to borderline personality disorder: A comparison of combined therapy and single pharmacoth erapy. Canadian Journal of Psychiatry. 55(2), 74- 81. Italy	N= 55 enrolled n=44 analysed	participants (18 males and 37 females) with DSM-IV-TR diagnosis of BPD were recruited from patients attending the Service for Personality Disorder of the Unit of Psychiatry, Department of Neuroscienc e, University of Turin. Mean age of 25.8 yrs in medication-only group and 26.2 yrs in combined therapy group; 62% previous hospitalizati	28 patients received fluoxetine 20 mg to 40 mg daily (see control group for schedule) plus IPT-BPD. IPT-DBT consisted of weekly, manualised sessions lasting 1 hour. Patients in the combined therapy group were treated by a psychothera pist who was not the psychiatrist prescribing the medication and who had 5 yrs of experience practicing IPT.	27 patients received fluoxetine 20 mg to 40 mg daily plus clinical managemen t consisting of a fortnightly clinical review of 15-20 minutes duration. Initially, fluoxetine was prescribed at a fixed dosage of 20 mg daily with the opportunity to increase the dosage to 40 mg daily beginning in week 2, depending on clinical judgment. Treatment lasted 32	Summary: Small sample size limits ability to draw strong conclusions but results suggest that combined therapy was superior to monotherapy in relieving anxiety, improving functioning and alleviating the severity of some symptoms of BPD during the 32 weeks of the trial. Detail: Of 55 subjects, 11 (20%) dropped out (6 in medicationonly, 5 in combined therapy). Only treatment completers (n=44) were included in the analysis. Using a univariate General Linear Model to calculate the effects of 1) duration of treatment and 2) the type of treatment on each assessment scale score, only duration of treatment had a statistically significant effect on global functioning, depressive symptoms and social and occupational functioning (p=<0.001), while both treatments alleviated symptoms of depression and improved global functioning. Combined therapy was superior to medication-only in alleviating anxiety symptoms (p=<0.001). Combined therapy was	Depression (Hamilton Depression Rating Scale) Anxiety (Hamilton Anxiety Rating Scale) Quality of life (SAT- P satisfaction profile) Global functioning (CGI Clinical Global Impression Scale) Social and occupational functioning (SOFAS) BPD symptoms severity and frequency (BPD-SI)	Treatment lasted 32 weeks.	Not reported	No Intention to treat analysis — only analysed data for completers (i.e. 44 of 55 enrolled) and potential attrition bias due to lack of compliance was not addressed. Combined therapy was not compared with IPT alone. QC 1.1=A 1.2=C 1.3=B 1.4=D 1.5=B 1.6=B 1.7=B 1.8= 20%

employed; 31% py and the married. pharmacoth erapy Excluded were those with a lifetime diagnosis of delirium, dementia, amnestic or other cognitive disorders, schizophreni a or other Other
psychotic disorders, and bipolar disorder. Combined therapy had significant effects on interpersonal relationships (p=<.009), impulsivity Axis I or II (p=<0.01), and affective disorders were also excluded. Female patients of childbearing age were excluded if they were not using an adequate

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			were those							
			who had							
			recently							
			received							
			psychothera							
			py or							
			pharmacoth							
			erapy, and							
			current							
			substance							
			abusers.							
Bos, E.H.,	RCT	N=79	Between 8	Systems	Treatment	Summary: Moderate to large	Primary efficacy	Pre-	Effect sizes	Raters were
Van Wel,	Level II		and 12	Training for	as usual	effect sizes were seen for	measures included	treatment	(non-	not blind
E.B.,		TX (n = 42)	subjects	Emotional	(TAU)	symptom variables and	general psychiatric	assessmen	standardised	and
Appelo,	Randomiza	C (n = 37)	were	Predictabilit		psychological quality of life at	and BPD-specific	ts (T1)):	interrater
M.T., &	tion was		included in	y and	The STEPPS	T2. At T3, moderate effects on	symptoms,	took place	Primary	reliability
Verbraak,	done		each group	Problem	groups	symptoms were still present,	measured with the	following	outcomes:	was not
M.J. (2010).	separately		for the	Solving	began	while also moderate effects on	Symptom Checklist-	randomiza	Estimated	assessed
Α	at each		Treatment	(STEPPS) +	simultaneou	physical, social and overall	90 total score (SCL-	tion, just	mean	for the
randomized	location.		group. If at	individual	sly with a	quality of life could be	90) and the	before the	differences	BPDSI-IV.
controlled			the time of	treatment	group of	observed.	Borderline	start of the	at the end of	Intention to
trial of a			randomisati	Group	patients that	More than TAU, STEPPS plus	Personality	interventio	treatment	treat
Dutch			on, an	treatment; it	started TAU.	limited adjunctive individual	Disorder checklist-	n. Post-	(T2),	analysis
version of			insufficient	combines	The control	therapy reduced	40 total score (BPD-	treatment	adjusted for	was
systems			number of	skills	condition	symptomatology and improved	40) respectively.	assessmen	differences	completed
training for			participants	training with	was TAU,	quality of life, also in the longer		ts (T2)	at T1, were:	but yielded
emotional			were	general CBT	i.e., the	run. STEPPS was not superior to	Secondary outcome	were done	SCL-90,	similar
predictabilit			assigned to	elements	standard	TAU in reducing impulsive and	measures included	after the	-47.0 (95%	results to
y and			a group, the	and has a	treatment	parasuicidal behaviours, but	impulsive and	final	CI, -78.2 to	the per-
problem			remaining	strong	for BPD	this may be explained by the	parasuicidal	weekly	-15.9, p =	protocol
solving for			spots were	systems	offered at	low base rate of these	behaviour, and	session of	0.003); BPD-	analysis so
borderline			randomly	component;	the	behaviours in our sample. It	quality of life.	the STEPPS	40, -18.7	only the
personality			assigned to	family	participating	may also be that a more	Impulsive and	program	(95% CI,	per-
disorder.			subjects	members	sites. This	intensive treatment, such as	parasuicidal	(mean	-31.6 to -5.8,	protocol
Journal of			who did not	and	treatment	DBT, is required to find	behaviour were	23.9 ±3.6	p = 0.005).	analysis
Nervous			meet full	significant	consisted of	differential effects on these	assessed using 2	weeks	At 6-month	was
and Mental			BPD criteria	others are	individual	behaviours. The merit of the	subscales of the	after T1).	follow-up	presented.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
Disease,			(these	actively	therapy	STEPPS program is that it is	Borderline	Follow- up	(T3), the	The
198(4), 299-			participants	involved in	from a	relatively easily learned and	Personality	assessmen	differences	comparabili
304.			were not	the	psychothera	implemented, and nevertheless	Disorder Severity	ts (T3)	were smaller	ty of
			included in	program.	pist,	improves BPD treatment in a	Index-IV (BPDSI-IV).	took place	but still	treatment
The			this		psychologist,	number of ways. Further	The impulsivity	approxima	significant:	between
Netherlands			analysis).	The Dutch	or	research to compare this	subscale contains	tely 6	SCL-90,	sites and
				version of	psychiatric	treatment with other effective	11 items reflecting	months	-38.4 (95%	the
			Age mean	the STEPPS	nurse,	treatments is warranted.	potentially harmful	after T2	CI, -67.1 to	comparabili
			(SD)	group	offered	Importantly, this RCT on STEPPS	impulsive	(mean	-9.6, p =	ty between
			Treatment	program	every 1 to 4	is the first done by others than	behaviours (e.g.,	25.7 ±4.2	0.009); BPD-	different
			32.9 (5.6)	involves 18	weeks.	its developers.	gambling, reckless	weeks	40, -14.7	therapists
			Control 31.8	weekly	STEPPS-	Detail: Scores on the primary	driving, binge	after T2).	(95% CI,	was not
			(9.2)	sessions and	related	efficacy measures. SCL-90 and	eating). The	Outcome	-26.6 to -2.8,	assessed.
				a single	treatments	BPD-40 symptom scores	parasuicide	measures	p=0.016).	
			Gender –	follow-up	like DBT or	generally decreased from T1 to	subscale contains	were		QC
			female (n,	session 3 to	family	T3, and more so in the STEPPS	13 items reflecting	assessed	Secondary	1.1=A
			%)	6 months	groups for	group than in the TAU group.	self-mutilating	on all 3	outcomes:	1.2=A
			Treatment	after the	family	Quality of life scores (WHOQOL-	Parasuicidal	occasions	In the	1.3=B
			35, 83.3%	conclusion	members of	Bref) generally increased from	behaviours and		domain of	1.4=F
			Control 33,	of the	the patients	T1 to T3. Overall treatment	suicidal thoughts		Psychologica	1.5=A
			89.2%	program.	were not	effects were found for Overall	and attempts.		l Health,	1.6=A
				The program	allowed.	Quality of Life and General			STEPPS	1.7=B
			Diagnosis	has 3 main	In both	Health, Physical Health, and	Quality of life was		scores were	1.8=28.9%
			BPD	components	conditions,	Psychological Health. For Social	measured with the		higher than	(TX) and
			confirmed	: (1)	the main	Relationships the overall	World Health		TAU scores	13.2% (C)
			by	psychoeduc	treatment	treatment effect was a trend,	Organization		particularly	1.9= 3
			administerin	ation about	could be	for Environment the overall	Quality of Life		at T2	1.10=4
			g the BPD	BPD; (2)	supplement	treatment effect was not	Assessment-Bref		(estimated	2.1 = (+)
			modules	emotion	ed with	significant.	(WHOQOL-Bref)		mean	
			from the	managemen	(medication)	In both conditions, the number			difference	
			Dutch	t skills	contacts	of patients scoring above the			adjusted for	
			versions of	training; and	with a	cut-off for ratings for the			T1 score:	
			the	(3)	psychiatrist,	parasuicide and impulsivity			2.08 [95%	
			Personality	behaviour	social	subscales of the BPDSI-IV			CI, 0.76 –	
			Diagnostic	managemen	worker, or	decreased from T1 to T3. There			3.41, p =	
			Questionnai	t skills	other health	were no significant differences			0.002]); at	
			re and the	training.	care	between the conditions (overall			T3, this	1

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			Structured	STEPPS is	professional.	treatment effects).			difference	
			Clinical	system-		Medication was similar			was reduced	
			Interview for	based, in		between the groups at baseline			to 0.91 (95%	
			DSM-IV Axis	that friends		and remained stable during			CI, -0.32-	
			II Disorders.	and relatives		follow-up assessment.			2.15, p =	
			Participants	of the		Over the entire study period,			0.146). With	
			had to be	patients are		patients in the STEPPS group			respect to	
			above	explicitly		received 15 STEPPS group			Overall	
			threshold on	involved in		sessions on average, and had a			Quality of	
			either	the program		mean of 8 contacts with their			Life and	
			impulsivity	for support		individual therapist. TAU-			General	
			and/or	and		patients had a mean of 9			Health,	
			parasuicide	reinforceme		individual contacts with their			Physical	
			subscales of	nt of the		main therapist. In addition to			Health and	
			the BPD	newly		these study treatment contacts,			Social	
			Severity	learned skills		TAU-patients reported to have			Relationship	
			Index-IV	(the		had 31 ambulatory therapy			s, STEPPS	
			Exclusion	"support		contacts on average with other			scores were	
			Subjects	group").		mental health care workers			significantly	
			were	They receive		(e.g., psychiatrists,			higher than	
			excluded if	education		psychologists, psychiatric			TAU scores	
			they did not	about BPD		nurses, social workers). Patients			only at T3	
			speak Dutch;	and are		in the STEPPS condition had a			(estimated	
			were	instructed		mean of 21 additional			differences	
			cognitively	how to		ambulatory therapy contacts.			1.80 [95%	
			impaired (IQ	interact with					CI, 0.30 -	
			< 70);	the person					3.30, p =	
			younger	with the					0.019]; 1.41	
			than 18 yrs;	disorder.					[95% CI,	
			treated	STEPPS is					0.15 - 2.66,	
			involuntary;	administere					p = 0.028];	
			or presented	d by 2					and 1.86	
			an imminent	mental					[95% CI,	
			danger to	health					0.14 –3.57, p	
			themselves	professional					= 0.035],	
			or others.	s, of who at					respectively)	
				least one is a	1				, but not at	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
				psychothera					T2	
				pist.					(estimated	
				Subjects					differences	
				assigned to					1.58 [95%	
				STEPPS also					CI, -0.07-	
				received					3.22, p =	
				limited					0.060]; 0.96	
				individual					[95% CI, -	
				therapy. This					0.40 -2.32, p	
				therapy was					= 0.164];	
				developed					and 0.77	
				as an					[95% CI,	
				adjunct to					-1.08 –2.61,	
				STEPPS to					p = 0.431,	
				help					respectively)	
				consolidate					. ' ''	
				the newly					Odds ratios	
				acquired					for	
				skills and to					impulsivity	
				stimulate					were (T2):	
				their use. It					0.81 (95%	
				had a					CI, 0.26 –	
				structured					2.53, p =	
				format, in					0.716); and	
				which the					(T3): 0.68	
				previous					(95% CI,	
				STEPPS					0.22–2.09, p	
				session was					= 0.501).	
				discussed as					Odds ratios	
				well as the					for	
				use of the					parasuicide	
				learned skills					were (T2):	
				in everyday					2.05 (95%	
				life. The					CI, 0.66 –	
				therapy was					6.35, p =	
				offered					0.211); and	
				every 2					(T3): 1.02	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				weeks during the entire study period.					(95% CI, 0.35–2.97, p = 0.974).	
									Effect sizes (standardise d): Effect sizes	
									for the differences between the	
									treatments at T2: SCL- 90, 0.68; BPD-40,	
									0.68; Psychologica	
									0.96. At T3 effect sizes were:	
									SCL-90, 0.56; BPD-40, 0.53; Overall	
									Quality of life & General Health, 0.61;	
									Physical Health, 0.56; Social	
									Relationship s, 0.61.	
Carter, G.L., Willcox, C.H., Lewin,		N=60 Treatment	Age mean (SD): Treatment	Modified DBT: team- based	WL + TAU The control condition	Summary: The study found no statistically significant differences between modified	The primary outcomes (differences in	3 and 6 month follow-up	BDQ days in bed, d=-0.66 (-1.25, -0.07)	Very clear on methods of
T.J., Conrad,	The	n= 27	24.5 ± 6.12;	approach	was a 6-	DBT and waitlist control/TAU	proportions and		BDQ days	randomisati

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
A.M., &	purpose of	Control n=	Control 24.7	including	month WL	except for some quality of life	event rates) of any		out of role,	on and
Bendit, N.	the	33	± 6.15	individual	for DBT	measures. There were trends	deliberate self-		d= -0.43	concealme
(2010).	present			therapy,	while	towards modified DBT in	harm (DSH) event;		(-1.01, 0.15)	nt (sealed
Hunter DBT	study was		Gender: all	group-based	receiving	reductions in hospitalisations,	general hospital		Days in	envelopes).
project:	to		female	skills	TAU	shorter lengths of stay, days in	admission for DSH		hospital, d =	Randomizat
Randomized	compare			training,	(TAU+WL).	bed.	and psychiatric		-0.16 (-0.62,	ion
controlled	dialectical		Diagnosis:	telephone	Subjects,	Authors state: There are several	admission for any		0.30)	occurred
trial of	behaviour		BPD via	access to an	both in the	possible explanations given to	reason; and mean		No. hospital	after
dialectical	therapy		clinical	individual	initial DBT	as to why DBT was not effective	difference in length		admissions,	baseline
behaviour	(DBT) and		interview by	therapist	group and in	in this study: regression to	of stay for any		d= -0.22	assessment
therapy in	the control		а	and	the TAU+WL	background (pre-baseline)	hospitalization.		(-0.68, 0.24)	
women with	condition		psychiatrist	therapist	group who	levels, the Hawthorne effect	Secondary		No. hospital	Hospitalisat
borderline	of		using DSM-	supervision	came to DBT	whereby both groups improved	outcomes were		presentation	ion data
personality	treatment		IV criteria.	groups	after 6	because of the effect of being in	disability and		s without	was
disorder.	as usual		To be in the	following	months	a study, the potentially	quality of life		admission,	intention to
The	(TAU) plus		study,	the model of	were	powerful effect of being in a 6	measures.		d= 0.03	treat but
Australian	weight list		needed a	treatment	offered 12	month TAU+WL group for DBT	Specific measures:		(-0.43, 0.49)	rest was
and New	(WL) for		history of	developed	months DBT	for the control condition,	Composite		No. self-	per-
Zealand	DBT		multiple	by Linehan	treatment,	beneficial effects of the TAU	International		harm	protocol.
journal of	(TAU+WL).		episodes of	et al.	although the	condition available in the	Diagnostic		episodes in	Large
psychiatry,			deliberate	The main	comparison	Hunter region, modifications to	Interview modules:		previous 3	discrepancy
(2), 162-			self-harm, at	change to	between	standard DBT, the possible	anxiety, depression,		mths, d =	in drop
173.			least three	the Linehan	groups was	inferiority of training of DBT	bipolar disorders,		-0.18 (-0.64,	outs
			self-	et al. model	restricted to	therapists to that of those in	alcohol abuse and		0.28)	between
			reported	was the	the first 6	other studies or inferior	dependence,		WHOQOL-	groups.
			episodes in	telephone	months of	adherence to the DBT methods	substance abuse		BREF	
			the	access to	DBT versus	despite adequate training, and	and dependence		Environment	QC
			preceding	individual	TAU+WL.	methodological differences.	International		al domain,	1.1=A
			12 months.	therapists.		Detail: The present study found	Personality		d= 0.43	1.2=A
				In the		reductions in psychiatric	Disorder		(-0.14, 0.99)	1.3=A
			Exclusion:	present		hospitalization for both DBT	Examination		WHOQOL-	1.4=F
			Exclusion	study		and WL+TAU over time but no	Questionnaire		BREF	1.5=A
			criteria were	telephone		significant benefit in favour of	Brief Disability		Physical	1.6=B
			presence of	access was		DBT for the binary outcome, the	Questionnaire		domain, d =	1.7=A
			a disabling	delivered		mean event rate or the mean	Lifetime		0.69 (0.11,	1.8=47.4%
			organic	using a		length of stay for those with an	Parasuicidal Count-		1.27)	(TX) and
			condition,	group roster		admission at the end-point of	2		WHOQOL-	11.4(C)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			schizophreni a, bipolar affective disorder, psychotic depression, florid antisocial behaviour, or developmen tal disability	of DBT individual therapists (not contact with each participant's individual therapist) between 8:30 a.m. and 10 p.m., and telephone contact with the local psychiatric hospital between 10 p.m. and 8:30 a.m. Treatment subjects were also assigned to the relevant skills training group, meeting weekly with the modules running in the following order: Interpersona		the trial. There were no significant differences in proportions for general hospital admission for DSH or for any psychiatric admission. The length of stay overall, or the length of stay for those with either type of admission was not significantly different, although the DBT group tended to have shorter lengths of stay. For the per-protocol analyses, there were no significant differences for the proportion of patients with any DSH episode in 6 months, or for the number of self-harm episodes for the baseline—3 months and 3—6 months periods. There was a significant benefit in favour of DBT for days spent in bed but no significant effect for days out of role. There was a significant beneficial effect in favour of DBT, for three of the four domains of quality of life: Physical, Psychological and Environmental.	Parasuicidal History Interview-3 month period WHO Quality of Life-BREF version		BREF Psychologica I domain, d = 0.65 (0.07, 1.23) WHOQOL- BREF Social domain, d = -0.04 (-0.60, 0.53)	1.9= B 1.10= 2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				Effectivenes s, Emotion Regulation and Distress Tolerance. Each module ran for 8 weeks. Groups had a minimum of 4 members before commence ment and a maximum of 8 members. Entry to the skills group occurred only at the commence ment of the						
				next skills module.						
Davidson, K. M., Tyrer, P., Norrie, J., Palmer, S.J., & Tyrer, H. (2010). Cognitive therapy v. Usual treatment	RCT Level II	N= 106 n= 76 T=43 C= 33	Age mean (SD) T= 32.4 ± 9.0 C= 31.4 ± 9.4 Gender – Female (n, %) T= (45, 83.3%)	30 x 1 hr sessions of individual cognitive— behavioural therapy for personality disorders (CBT—PD) over 1 year	TAU	Summary: The original positive treatment effect is maintained over an average of 6 yrs follow-up: a difference of 1.26 suicide attempts over the following 5 yrs. Detail: Over the 6-year period, 73% (n = 24/33) in the TAU group had made at least one suicide attempt compared with	Structured Clinical Interview for DSM— IV Axis II Personality Disorders. Acts of Deliberate Self-Harm Inventory. Beck Depression	6 year follow-up Of the people who originally took part n = 76/106 (72%)	BDI, d=0.02 (-0.44, 0.47) BSI, d= 0.07 (-0.39, 0.52) EQ-5D thermomete r, d = -0.11 (-0.57, 0.34) EQ-5D weighted	No information on comorbidit y and prescribed drug use was obtained across the
for borderline			C= (44, 84.6%)	in addition to their		56% (n = 24/43) in the CBT-PD group (adjusted odds ratio 0.37,	Inventory (BDI).	were interviewe	HSV, d=-0.24 (-0.69, 0.22)	trial and follow-up,

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
personality				usual		95% CI 0.10–1.38, P= 0.13). In	Spielberger State-	d at 6 year	IIP-32, d=	and no
disorder:			Diagnosis:	treatment		terms of self-harm (non-	Trait Anxiety	follow-up.	0.18 (-0.27,	formal
Prospective			BPD, met			suicidal) there was little	Inventory (STAI).		0.64)	assessment
6-year			criteria for			evidence of a difference			SFQ, d=-0.18	of
follow-up.			at least 5			between the groups.	Brief Symptom		(-0.63, 0.27)	interrater
British			items of BPD			However, it was clear that the	Inventory (BSI).		State-	agreement
Journal of			using the			overall rate of self-harm			Anxiety, d=	was carried
Psychiatry,			Structured			declined in both groups.	Participant's beliefs		-0.19 (-0.64,	out on
197(6), 456-			Clinical			For measures of depression,	thought to be		0.27)	SCID-II
462.			Interview for			anxiety, general	related to		Suicide	diagnosis.
			DSM IV Axis			psychopathology, social	personality disorder		attempts, d=	Randomizat
UK			II Personality			functioning, quality of life and	were measured		-0.32 (-0.77,	ion was
			Disorders.			dysfunctional attitudes, there	using the Young		0.14)	stratified by
			Inclusion: to			were no statistically significant	Schema		Trait-	high
			enter the			differences between the groups	Questionnaire		Anxiety, d=	(presence
			study,			during follow-up.	(YSQ).		-0.10	of suicidal
			participants			At 6 yrs, 54% of the sample no	Social Functioning		(-0.56, 0.35)	acts in past
			had received			longer met diagnostic criteria	Questionnaire		Youth	12 months)
			either in-			for BPD: 56% (n = 24/43) of the	(SFQ).		Schema	or low
			patient			CBT-PD group and 52% (n =	Inventory of		Questionnai	(presence
			psychiatric			17/33) of the TAU group. There	Interpersonal		re, d=-0.07	of self-
			services or			was no difference between the	Problems – Short		(-0.52, 0.39)	mutilation
			an			groups in terms of those who	form 32 (IIP-32).			only in past
			assessment			continued to meet diagnostic				12 months)
			at accident			criteria (P = 0.44).	Cost effectiveness			episodes of
			and			Defined poor outcome as any	via quality-adjusted			self-harm,
			emergency			suicide attempt in the follow-up	life-year (QALY),			using
			services or			period and examined the	assessed using the			randomized
			an episode			baseline predictors of good and	EuroQol (EQ-5D),			permuted
			of deliberate			poor outcome.	and the Client			blocks of
			self-harm			From all the variables known to	Service Receipt			size 4.
			(either			be of prognostic importance	Inventory (CSRI) for			It was
			suicidal act			pre-randomisation, only having	the 6 months			completed
			or self-			special needs at school was	before follow-up			confidential
			mutilation)			specifically associated with the	interview.			ly at a
			in the			presence of any suicide				separate
			previous 12			attempts during the 6-year				centre.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			months. Exclusion: those who had evidence of an organic illness, mental impairment, alcohol or drug dependence , schizophreni a or bipolar affective disorder. Did not exclude those who were abusing drugs or alcohol providing they did not meet criteria for dependence			follow-up. Overall quality of life scores for the entire group remained poor and continued to lie within a similar range to values reported for other severe mental health populations such as severe schizophrenia. Use of hospital services remained high in both groups with about 54% of all individuals having received inpatient treatment and almost two-thirds having utilised accident and emergency (A&E) treatment during the follow-up period. With the exception of in-patient and A&E utilisation, no particularly large differences were observed between the treatment groups. However, the mean length of hospitalisation was markedly lower in the CBT-PD group than for the TAU group (10.81 v. 60.97 days respectively). Although a similar proportion of patients in both groups attended A&E, both the mean and median number of attendances were higher in the				Therapy adherence measures were completed. QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=A 1.7=A 1.8= 20% (TX) and 36% (C) 1.9= A 1.10=A 2.1 = (++)
McMain, S.F., Links, P.S., Gnam,	RCT Level II	Treatment n=90 Control	Age mean (SD) T=29.4±9.2	Dialectical behaviour therapy.	General psychiatric managemen	TAU group. Summary: both groups improved on most measures, except the utilization of non-	Structured Clinical Interview for DSM- IV Axis I Disorders—	Assessed at baseline and every	Risk of suicide and self-injurious	QC 1.1=A 1.2=A
W.H., Guimond, T., Cardish,		n= 90 The	C= 31.3±10.6 Gender	Multimodal: Individual	t. Consisted of	study treatments decreased significantly more in the DBT group than in the general	Patient Edition International Personality	4 months over the 1- year active	episodes rpb=0.89	1.3=A 1.4=F 1.5=A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
R.J., Korman, L., & Streiner, D.L. (2009). A randomized trial of dialectical behaviour therapy versus general psychiatric managemen t for borderline personality disorder. The		primary goal: to eliminate behaviour al dyscontrol by helping patients develop more effective coping strategies.	Female (n, %) T= (81,90%) C= (84,82.2%) DSM-IV criteria for BPD via Structured Clinical Interview Inclusion: Patients had to meet DSM-IV criteria for BPD, be 18-	sessions (1 hour weekly); skills group (2 hours weekly); phone coaching (2 hours weekly). Consultation team for therapists mandated (2 hours weekly). Organized	case managemen t, dynamically informed psychothera py, and symptom- targeted medication managemen t. Individual sessions (1 hour weekly) including medication	psychiatric management group Detail: The utilization of non- study treatments decreased significantly more in the DBT group than in the general psychiatric management group (odds ratio=0.52, p=0.002). The mean adherence scores for essential interventions were significantly greater than the mean adherence score for proscribed DBT items across all time points. Both groups showed statistically significant decreases in the frequency of suicidal episodes (odds ratio=	Disorder Examination Treatment fidelity: modality specific adherence scales Frequency and severity of suicidal and non-suicidal self-injurious behaviour episodes: Suicide Attempt Self-Injury Interview Borderline symptoms: Zanarini Rating Scale for	treatment phase	Symptom severity (ZRSBPD) rpb =1.13 Depression (BDI) rpb =1.07 Anger (State-Trait Anger Expression Inventory - Anger out) rpb =0.32 Health- related QoL	1.6=A 1.7=A 1.8=Treatm ent 39%; Control 38% 1.9= A 1.10=F 2.1 = (+)
American journal of psychiatry, (12), 1365- 1374 Canada			60 yrs of age, and have had at least two episodes of suicidal or nonsuicidal self-injurious episodes in the past 5 yrs, at least one of which was in the 3 months preceding enrolment.	according to a hierarchy of targets: suicidal, treatment-interfering, and quality-of-life-interfering behaviours. Explicit focus on self-harm and suicidal behaviour. Treatment	managemen t based on structured drug algorithm. Therapist supervision meeting mandated (90 minutes weekly). Focus is expanded away from self-harm and suicidal behaviours.	o.23, p=0.01) and nonsuicidal self-injurious episodes (odds ratio = 0.52, p=0.03). There were no between group differences in the frequency of suicidal episodes or nonsuicidal self-injurious episodes. Those with any suicidal or nonsuicidal self-injurious episodes experienced a significant decrease in the medical risk over time, but there was no between-group difference. Using mixed-effects linear	General symptoms: Symptom Checklist—90— Revised State-Trait Anger Expression Inventory Beck Depression Inventory Inventory of Interpersonal Problems, 64-item version		(EQ-5D) rpb =0.24 Symptom distress (SCL-90-R) rpb =0.68 Interpersona I functioning (Inventory of Interpersona I Problems- 64) rpb =0.45	

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			Were	involves:		growth curve analyses,				
			limited to	dialectical	Psychodyna	significant decreases over the 1-	Health-related			
			having a	strategies,	mic	year treatment period (but no	quality of life: EQ-			
			DSM-IV	irreverent	approach	between-group differences)	5D thermometer			
			diagnosis of	and	emphasized	were found for the following	Treatment History			
			a psychotic	reciprocal	the	variables: borderline symptoms,	Interview: self-			
			disorder,	communicat	relational	depression, interpersonal	reported counts of			
			bipolar I	ion style,	aspects and	functioning, symptom distress,	the number of			
			disorder,	formal skills	early	and anger.	hospital			
			delirium,	training.	attachment		admissions, days in			
			dementia, or		relationships	On health-related quality of life	hospital,			
			mental	Behavioural		(based on the EQ-5D	emergency			
			retardation	strategies:		thermometer), both groups	department visits,			
			or a	exposure,	Disturbed	reported improvements, but	medications, and			
			diagnosis of	contingency	attachment	these changes were not	outpatient			
			substance	managemen	relationships	statistically significant.	psychosocial			
			dependence	t, diary	related to		treatments.			
			in the	cards,	emotion	Based on generalized-				
			preceding	behavioural	dysregulatio	estimating-equation analysis,	Reasons for Early			
			30 days;	analysis.	n as a	participants in both groups	Termination From			
			having a		primary	showed statistically significant	Treatment			
			medical	Patients	deficit.	decreases in the total number	Questionnaire			
			condition	encouraged		of emergency department visits				
			that	to rely on	Involves	(odds ratio=0.43, p<0.0001),				
			precluded	skills over	attention to	with no statistically significant				
			psychiatric	pills where	signs of	differences between groups.				
			medications;	appropriate	negative					
			living	(e.g.,	transference	Both groups demonstrated				
			outside a	anxiolytics).		statistically significant				
			40-mile			reductions in the number of				
			radius of	Tapering	Patients	emergency department visits				
			Toronto;	from	were	for suicidal behaviour (odds				
			having any	medications	encouraged	ratio = 0.35, p<0.0001), with no				
			serious	was a	to use	between-group differences.				
			medical	treatment	medications					
			condition	goal.	concurrently					
			likely to							

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			require hospitalizati on within the next year (e.g., cancer); and having plans to leave the province in the next 2 yrs.							

Self-harm and risk behaviours

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Bateman,	RCT	N=41	Age and	Partial	Treatment as	Summary: MBT had a	Primary: number	2 yrs	Suicide attempts	QC
A., &	Level II		gender not	hospitalisation	usual (TAU)	greater effect than TAU on	of suicide		total, d=1.4 (0.3,	1.1=A
Fonagy, P.		T=22	reported.	consisting of a	consists of	clinical symptoms, suicide	attempts over the		1.5),	1.2=B
(2008). 8-	RCT (8			long-term	general	and risk behaviours, service	whole of the 5		Zanarini Rating	1.3=B
year	yrs since	C= 19	Diagnosis:	psychoanalytical	psychiatric	utilisation and general	year post-		Scale (ZRS) for	1.4=B
follow-up	intervent		BPD on both	ly orientated	outpatient	functioning	discharge follow-		BPD:	1.5=B
of patients	ion		Structured	treatment for	care with	Detail: 23% made suicide	up period.		total: d=1.8 (0.14,	1.6=A
treated for	follow-		Clinical	18 months.	medication	attempts in the MBT group	Associated		3.5), affect: d=1.1	1.7=A
borderline	up –		Interview for	Metallization	prescribed by	(mean attempts 0.5±0.9),	outcomes were		(0.41, 1.7),	1.8= 0%
personalit	reporting		DSM-III-R	based	the consultant	contrasted with 74% of the	service use,		cognitive: d=0.84	and 18%
y disorder:	occurren		and	treatment	psychiatrist,	TAU group (mean attempts	including		(0.3, 1.4),	1.9= C
Mentalizat	ces since		Diagnostic	(MBT) individual	community	0.52±0.48), which was	emergency room		impulsivity: d=1.2	1.10=F
ion-based	the 3		Interview for	and group	support from	significant.	visits; the length		(0.59, 1.9),	2.1 = (+)
treatment	year		Borderline	therapy.	mental health	Mean number of emergency	and frequency of		interpersonal:	
versus	follow-		Patients.	MBT by partial	nurses, and	room visits and hospital	hospitalization;		d=1.6 (1, 2.3)	
treatment	up).			hospitalization	periods of	days highly significantly	continuing		GAF, d=0.75 (-1.9,	
as usual.			Exclusion: If	consists of 18-	partial	favoured the MBT group, as	outpatient		3.4),	
American			they met	month	hospital and	did the continuing	psychiatric care;		No. of days of	
Journal of			criteria for	individual and	inpatient	treatment profile.	and use of		hospitalisation,	
Psychiatry,			schizophreni	group	treatment as	During MBT group therapy,	medication,		d=1.5 (0.36, 2.7),	
165(5),			a, bipolar,	psychotherapy	necessary but	all of the experimental	psychological		No. of emergency	
631-638.			substance	in a partial	no specialist	group but only 31% of the	therapies, and		room visits, d=1.4	
			misuse or	hospital setting	psychotherapy	TAU group received therapy.	community		(0.21, 2.63),	
(Follow up			mental	offered within a		Over the 5-year	support.		No. of yrs of	
from			impairment	structured and		postdischarge period, both	Secondary:		employment,	
Bateman			or had	integrated		groups received around 6	1) symptom		d=0.94 (0.29, 1.6),	
A, Fonagy			evidence of	program		months of psychological	status as assessed		No. of yrs	
P (1999):			organics	provided by a		therapy (n.s.).	at a follow-up		psychiatric	
Effectiven			brain	supervised		For all other treatments, the	interview using		outpatient	
ess of			disorder.	team.		TAU group received	the Zanarini		treatment, d=	
partial				Expressive		significantly more input	Rating Scale for		0.93 (-4, 1.5),	
hospitaliza				therapy using		postdischarge—3.6 yrs of	DSM-IV		No. of yrs further	
tion in the				art and writing		psychiatric outpatient	borderline		therapy 36	
treatment				groups is		treatment and 2.7 yrs of	personality		months post-	
of				included.		assertive community	disorder		intake, d= 0.07	
borderline	1			Crises are		support, compared with 2	2) global		(-0.23, 0.37),	

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis Other							
personalit			ouici	managed within		yrs and 5 months,	functioning as		No. of yrs further	
y disorder:				the team;		respectively, for the MBT	measured by the		assertive	
a				medication is		group.	Global		outreach	
randomize				prescribed		The TAU group had an	Assessment of		treatment, d=1.8	
d				according to		average of over 3 yrs taking	Functioning Scale		(1.4, 2.2),	
controlled				protocol by a		antipsychotic medication,	(GAF) at 6-month		Medication (yrs)	
trial. Am J				psychiatrist		whereas the MBT group had	intervals after 18		antidepressants,	
Psychiatry				working in the		less than 2 months.	months of MBT		d= 1.1 (0.45, 1.7),	
156:1563-				therapy		Smaller but still substantial	by partial		Medication (yrs)	
1569)				program.		differences were apparent	hospitalization:		antipsychotics, d=	
				The focus of		in antidepressant and mood	TX profiles		2.04 (1.6, 2.5),	
				therapy is on		stabilizer use.	(emergency room		Medication (yrs)	
				the patient's		The TAU group spent nearly	visits,		mood stabilisers,	
				moment-to-		2 yrs taking three or more	hospitalization,		d=1.17 (0.73, 1.6),	
				moment state		psychoactive medications,	psychiatric		Medication (yrs)	
				of mind. The		compared to an average of	outpatients,		three or more	
				patient and		2 months for the MBT	community		drugs, d= 1.45	
				therapist		group.	support,		(1.1, 1.8).	
				collaboratively		At the end of the follow-up	psychotherapy,			
				try to generate		period, 13% of the MBT	medication) and			
				alternative		patients met diagnostic	suicidality and			
				perspectives to		criteria for BPD, compared	self-harm using			
				the patient's		with 87% of the TAU group.	criteria defined in			
				subjective		The contrast between mean	the original trial			
				experience of		total scores for the Zanarini	for each patient			
				himself or		Rating Scale for BPD yielded	by interview and			
				herself and		a large effect size favouring	scrutiny of			
				others by		the MBT group, albeit with a	medical records.			
				moving from		wide confidence interval.	Collected data			
				validating and		Multivariate analysis of	twice yearly on			
				supportive		variance across the four	vocational status,			
				interventions to		symptom clusters also	calculating the			
1				exploring the		reflected the better	number of 6-			
				therapy		outcome for the MBT group	month periods in			
				relationship		(Wilks's lambda=0.55, F=6.4,	which the patient			
				itself as it		df=4, 32, p=0.001).	was employed or			
				suggests		The largest differences	attended an			

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of Evidence		Gender Diagnosis Other							
			Other	alternative understanding.		favouring MBT were in terms of impulsivity and interpersonal functioning. There was over a 6-point difference in the GAF scores between the two groups, yielding a clinically significant moderate effect size of 0.8 (95% CI=-1.9 to 3.4). 46% of MBT group compared to 11% of the TAU group had GAF scores above 60. Vocational status favoured the MBT group, who were employed for nearly three times as long as the TAU group. There was increase in the % of MBT groups employment	educational program for more than 3 months. Patient recall for self-harm was unreliable and could not be independently corroborated from medical records and so is not reported. The authors consider the frequency of emergency room visits to be a reasonable proxy of severe self-harm in this population.			
						or education in the three post discharge periods.				
Bateman, A., & Fonagy, P. (2009). Randomiz ed controlled trial of outpatient mentalizat ion-based	RCT Level II	N=134 MBT (T) n= 71 SCM (C) n= 63 MBT = mentaliz ation- based	Age mean (SD) TX= 31.3 (7.6) C=30.9 (7.9) Female (n, %) TX= 57, 80.3% C= 50, 79.4%	MBT is manualized, consisting of 18 months of weekly com- bined individual and group psychotherapy provided by two different therapists.	Protocoldriven treatment, SCM, in an outpatient context representing best current clinical practice. Practitioners	Summary: This study suggests that structured, integrated psychological and psychiatric treatment offering coordinated clinical management recommended by NICE significantly benefits patients with BPD. Both conditions were associated with substantially reduced suicidality, self-	Primary outcome: proportion of each group without severe parasuicidal behaviour as indicated by 1) suicide attempt, 2) life-threatening self-harm, or 3) hospital	18mths Assessed at entry and over the course of an 18- mnth treatment at 6, 12, and 18 months.	Life-threatening suicide attempts, d = 0.65 (0.58, 0.73) Severe self-harm attempts, d = 0.62 (0.28, 0.97) Interpersonal distress, d = 0.95 (0.59, 1.3) Social adjustment	Very good description of factors similar between groups and randomisat ion procedures .
treatment versus structured		treatmen t	Diagnosis -	MBT is a psychodynamic treatment	received equivalent supervision.	harm, and hospitalization and improvement on measures of symptoms and	admission. Hospital admission was		problems, d = 0.72 (0.37, 1.06) Symptom	QC 1.1=A 1.2=A

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of Evidence		Gender Diagnosis							
	Evidence		Other							
clinical		SCM =	participants	rooted in at-	Crisis plans	social and interpersonal	included because		distress, d = 0.67	1.3=B
managem		structure	were	tachment and	were	functioning by the end of	patients are		(0.33, 1.02)	1.4=F
ent for		d clinical	assessed	cognitive	developed	treatment.	primarily offered		Depression,	1.5=A
borderline		manage	using the	theory. It	collaboratively	The rate of improvement in	inpatient care in		d=0.45 (0.1, 0.79)	1.6=A
personalit		ment	Structured	requires limited	within each	both groups was higher than	anticipation of		Hospital	1.7=A
y disorder.			Clinical	training with	treatment	spontaneous remission of	suicide attempts		admissions,	1.8= 0%
American			Interview for	moderate levels	team for all	symptoms of BPD. Although	and severe self-		suicidal and self-	1.9= A
Journal of			DSM-IV	of supervision	patients. SCM	patients in both groups	harm		injurious	1.10=F
Psychiatry,			(SCID-I and	for implemen-	therapists	made statistically significant	Secondary		episodes, d=-0.72	2.1 = (+)
166(12),			SCID-II).	tation by	focused on	improvements, MBT was	outcome: were		(-1.07, -0.37)	
1355-				generic mental	support and	associated with greater	independently		Length of	
1364.			Ethnicity -	health	problem	improvements than SCM for	rated Global		hospitalisation,	
			White	professionals.	solving.	most outcomes.	Assessment of		d = -0.43,	
UK			British/Euro	It aims to			Functioning (GAF)		(-0.78, -0.09)	
			pean MBT:	strengthen		Detail:	scores at the		Medication use,	
			76.1%, SCM:	patients'		Suicidal behaviour: 6 mth	beginning and		d= -0.58, (-0.93,	
			68.3%; Black	capacity to		periods free of suicidal	end of treatment		-0.24)	
			African/Afro	understand		behaviours, severe self-	and self-reported		Psychiatric	
			-Caribbean	their own and		injurious behaviours, and	psychiatric		hospitalisation,	
			MBT: 15.5%,	others' mental		hospitalization improved	symptoms, social		d= -0.53,	
			20.6%	states in		from 0% to 43% in the SCM	and interpersonal		(-0.88, -0.19)	
			Other	attachment		group and to 73% in the	functioning, and			
			Chinese/Tur	contexts in		MBT group; behaviour	medication use			
			kish	order to		increased in patients	assessed at			
			Pakistani	address their		assigned to MBT more than	baseline and at 6-			
			8.5%, 11.1%	difficulties with		for patients in the SCM	month intervals			
				affect, impulse		group, however, differences	until the end of			
			Exclusion	regulation, and		only became statistically	treatment at 18			
			Inclusion	interpersonal		significant after 12 mths of	months.			
			criteria were	functioning,		treatment.				
			1) diagnosis	which act as		Number of episodes of	Patients'			
			of BPD, 2)	triggers for acts		hospital admissions, suicide	subjective			
			suicide	of suicide and		attempts, and severe self-	experience of			
			attempt or	self-harm.		injuries) also declined in	symptoms was			
			episode of	Crisis plans		both groups but a	measured using			
			life-	were developed		substantially greater	the SCL-90-R, and			
			threatening	collaboratively		reduction in the MBT than	depression was			

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			self-harm	within each		the SCM group. Data were	assessed by using			
			within last 6	treatment team		relatively consistent and	the Beck			
			months, and	for all patients.		showed reduced suicidal	Depression			
			3) age 18-	MBT therapists		behaviour in both groups.	Inventory.			
			65. Exclusion	focused on		The rate of improvement	Social adjustment			
			criteria were	helping patients		was significantly greater in	and interpersonal			
			kept to a	reinstate		the MBT group both in	functioning were			
			minimum.	mentalising		terms of any suicide	measured using			
			Patients	during a crisis		attempt and the count data	the modified			
			were	via telephone		associated with it.	Social Adjustment			
			excluded if	contact.		Differences between groups	Scale-self-report			
			they	SCM therapists		only became marked in the	and the Inventory			
			currently 1)	focused on		last 6 mths of treatment; at	of Interpersonal			
			were in	support and		12 mths, groups were not	Problems-			
			long-term	problem solving		significantly different.	circumflex			
			psychothera				version.			
			peutic			Self-harm: Frequency of				
			treatment,			self-harm behaviours had				
			2) met DSM-			significantly steeper				
			IV criteria			reduction in the MBT group				
			for psychotic			compared with SCM. During				
			disorder or			the 6 months before end of				
			bipolar I			treatment fewer patients in				
			disorder, 3)			the MBT group severely self-				
			had opiate			harmed (24% versus 43%,				
			dependence			c2=4.6, p<0.05; relative				
			requiring			risk=0.55, 95% CI=0.33-				
			specialist			0.92).				
			treatment,			However, during the first 6				
			or 4) had			months of tx, comparison of				
			mental			the proportion of individuals				
			impairment			manifesting self-injurious				
			or evidence			behaviour favoured the SCM				
			of organic			group (75% vs. 59%, c2=3.1,				
			brain			p<0.08; relative risk=1.27,				
			disorder.			95% CI=0.99–1.63).				
			Current			From 6 to 18 mths the				

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis							
	271401100		Other							
			psychiatric			proportion of these patients				
			inpatient			in the MBT group who self-				
			treatment,			harmed showed a steeper				
			temporary			decline when compared				
			residence,			with the SCM group.				
			drug/alcohol			The more consistent				
			misuse, and			reduction in the counts of				
			comorbid			self-injurious behaviour and				
			personality			the difference in incidence				
			disorder			rate ratios favouring MBT				
			were not			was highly statistically				
			exclusion			significant.				
			criteria.							
						Hospitalisation:				
						Before treatment about 25%				
						of each group had had at				
						least one hospital				
						admission. During the first 6				
						mths of treatment patients				
						in the MBT group had				
						significantly fewer days in				
						hospital (Kruskal-Wallis				
						c2=4.25, p<0.04), and the				
						difference increased by 12				
						mths (Kruskal-Wallis				
						c2=6.54, p<0.02) and 18				
						mths (Kruskal-Wallis				
						c2=9.01, p<0.003). The				
						decline in number of				
						admissions over the whole				
						period of treatment was				
						significantly steeper in the				
						MBT group. The number of				
						patients hospitalized				
						reduced in the MBT group				
						relative to the SCM group				
						and was markedly lower in				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						the MBT group in the last 6 mths of treatment (c2=7.7, p<0.005; relative risk=0.14, 95% CI=0.3–0.64).				
						Secondary outcomes: GAF increased substantially for both groups over the 18-mth period from 41 (95% CI=39.7–42.7) to 57 (95% CI=54.9–60.0) (t=15.5, df=125, p<0.0001) but the increase was rated as greater in the MBT group. There was improvement on all self-rated measures for both groups. This was particularly notable for symptoms of depression and social adjustment. The slope of decline in self-reported symptoms and relationship and social adjustment problems was significantly greater in the MBT group across all four measures. The size of difference between the two groups at the end of treatment was substantial for reduction in interpersonal distress (d=0.95, 95% CI=0.59–1.3), moderate for social adjustment problems				
						(d=0.72, 95% CI=0.37–1.06) and symptom distress				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			(d=0.67, 95% CI=0.33–1.02), and more modest for depression (d=0.45, 95% CI=0.10–0.79). Medication: use of medication reduced significantly in both groups. The proportion of patients not receiving medication increased from 27% to 57%. The increase was greater for the MBT group. Counting the number of classes of psychotropic medication also showed a decline across both groups with the incidence rate ratio suggesting a significant difference in favour of the MBT group. The number of people receiving two or				
D. III.			4) 555	4)500		more different classes of medication substantially reduced in both groups from 30% at the beginning of treatment to 8% at the end of treatment.				
Bellino, S., Paradiso, E., Bogetto, F. (2008) Efficacy and tolerability of	SR Level I	N = 27 These are reviewed for 3 TX intervent ions: 1) ADs,	and Tolerability of Antidepress ant Agents ADs - MAOIs, Tricyclic and	1)Efficacy and Tolerability of Antidepressant Agents MAOIs - 3 studies Tricyclic and Heterocyclic Ads - 2 studies	Varied by study	Summary: MAOIs - may help with atypical depression, anger and impulsivity independent of antidepressant effects Tricyclics - modest effect and high potential for harm SSRIs - may help with affective instability and	No outcome measures stated	Not stated	Not reported	Not very clear SR, methods are vague and little detail is given clearly in results, the

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
pharmaco		2) Mood	Heterocyclic	SSRIs – 4 studies		emotional dyscontrol				tables lack
therapies		stabilizer	ADs and	2) Efficacy and		Lithium - some effect on				detail, the
for		s and	SSRIs – 8	Tolerability of		core pathology but can be				review is
borderline		3) APs	studies were	Mood		toxic and potentially fatal in				more
personalit			included: TX	Stabilizers		overdose				descriptive.
y disorder.			length	Lithium – 1		Carbamazepine - Some				Studies
CNS			ranged from	study		effect on wide range of				have small
Drugs.			5 – 14	Carbamazepine		symptoms including				sample
22(8), 671-			weeks,	– 2 studies		impulsive aggressive				sizes and
92.			number of	Oxcarbazepine		behaviour and effective				short
			participants	- 0 studies		dysregulation				durations
Italy			ranged from	Valproate		Lamotrigine - highly				and high
			10 – 108.	semisodium – 3		significant improvement in				drop outs.
			2) Efficacy	studies		anger was observed after 8				Heterogene
			and	Lamotrigine – 1		weeks of one trial				ity of
			Tolerability	study		Tiotixene, Trifluoperazine,				selection
			of Mood	3) Efficacy and		Haloperidol, Olanzapine,				criteria and
			Stabilizers	Tolerability of		Aripiprazole showed some				outcome
			MS –	Antipsychotics		effects on global symptoms,				measures
			Lithium,	First generation		depression, anxiety,				(no detail).
			Carbamazepi	antipsychotics		paranoid ideation, psychotic				
			ne,	Tiotixene – 2		symptoms, obsessive				QC
			Valproate	studies		symptoms, rejection				1.1 =A
			semisodium	Trifluoperazine		sensitivity, suicidal				1.2 =D
			and	-1 study		attempts, impulsive				1.3 =C
			Lamotrigine	Haloperidol – 2		aggression, chronic				1.4 =D
			- 7 studies	studies		dysphoria				1.5 =B
			were	Atypical		Risperidone – no effect				2.1 (-)
			included: TX	antipsychotics						
			length	Risperidone – 1		Detail:				
			ranged from	study		Antidepressant Agents				
			6– 12 weeks,	Olanzapine – 4		MAOIs - can be useful in				
			number of	studies		treating BPD with main				
			participants	Ariprazole – 1		effectiveness on symptoms				
			ranged from	study		of atypical depression,				
			10 – 52.			anger and impulsivity. The				
			Some			effects are considered to be				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			inpatients			independent of the anti				
			and			depressive action of these				
			outpatients.			drugs.				
			3) Efficacy			Tricyclic and Heterocyclic				
			and			Ads – response to TCAs in				
			Tolerability			patients with BPD appears				
			of			modest. The risk of				
			Antipsychoti			behavioural toxicity and				
			CS			potential lethality of TCAs in				
			APs – First			overdose support the use of				
			generation			SSRIs or other ADs.				
			and atypical			SSRIs – (in particular				
			AP - 11			fluoxetine and fluvoxamine)				
			studies were			were found to be efficacious				
			included: TX			in treating BPD. The				
			length			effectiveness of the drugs				
			ranged from			concerned symptoms of				
			6 – 12			effective instability				
			weeks,			(depression, anxiety and				
			number of			anger), impulsive dyscontrol				
			participants			(verbal aggression and				
			ranged from			aggression against objects).				
			16 -108.			Risk of toxicity is lower.				
						Mood Stabilizers				
						Lithium – one crossover				
						study showed efficacy of				
						lithium on core features of				
						BPD but was small study, 10				
						participants for 6 weeks.				
						Lithium can be toxic. Can be				
						fatal in overdose so caution				
						with suicide risk is advised.				
						Carbamazepine –				
						– Limited data – Suggestion				
						of effectiveness of				
						carbamazepine on wide				
						range of symptoms,				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Other							
						including impulsive				
						aggressive behaviour and				
						effective dysregulation. One				
						study reported link to				
						melancholic depression.				
						Oxcarbazepine – No RCTs				
						reported.				
						Valproate semisodium –				
						Limited data – only open				
						label studies. Some success				
						with impulse aggression.				
						Potential dose related				
						effects.				
						Lamotrigine — – Limited data				
						 A highly significant improvement in anger was 				
						observed after 8 weeks of				
						one trial.				
						Antipsychotics - First				
						generation antipsychotics				
						Tiotixene – 2 studies -				
						Reduction in global				
						symptomatology,				
						depression, anxiety and				
						paranoid ideation, reduction				
						in psychotic symptoms,				
						obsessive symptoms				
						Trifluoperazine – reduction				
						in depression, anxiety, and				
						rejection sensitivity and				
						reduction in suicidal				
						attempts vs. placebo				
						Haloperidol – Reduction in				
						global symptomatology,				
						depression, anxiety and				
						paranoid ideation, reduction				
						in psychotic symptoms,				

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis Other							
			Other			obsessive symptoms Antipsychotics - Atypical antipsychotics Risperidone— no significant difference Olanzapine — reduction in impulsive aggression, chronic dysphoria, reduction in anxiety, paranoia and global symptomatology. Aripiprazole— reduction in global psychopathology, depression and anxiety.				
Bos, E.H., Van Wel, E.B., Appelo,	RCT Level II Randomi	N=79 TX (n = 42)	Between 8 and 12 subjects were	Systems Training for Emotional Predictability	Treatment as usual (TAU) The STEPPS	Summary: Moderate to large effect sizes were seen for symptom variables and psychological quality of life	Primary efficacy measures included general psychiatric and	Pre- treatment assessmen ts (T1)	Effect sizes (non- standardised):	Raters were not blind and interrater
M.T., & Verbraak,	zation	C (n = 37)	included in each group	and Problem Solving (STEPPS)	groups began simultaneousl	at T2. At T3, moderate effects on symptoms were	BPD-specific symptoms,	took place following	outcomes: Estimated mean	reliability was not
M J. (2010). A randomize	done separatel y at each		for the Treatment group. If at	+ individual treatment Group	y with a group of patients that started	still present, while also moderate effects on physical, social and overall	measured with the Symptom Checklist-90 total	randomiza tion, just before the	differences at the end of treatment (T2), adjusted for	assessed for the BPDSI-IV.
d controlled trial of a	location.		the time of randomisati on, an	treatment; it combines skills training with	TAU. The control condition was	quality of life could be observed. More than TAU, STEPPS plus	score (SCL-90) and the Borderline	start of the interventio n.	differences at T1, were: SCL-90, -47.0 (95% CI,	Intention to treat analysis
Dutch version of systems			insufficient number of participants	general CBT elements and has a strong	TAU, i.e., the standard treatment for	limited adjunctive individual therapy reduced symptomatology and	Personality Disorder checklist-40 total	Post- treatment assessmen	-78.2 to -15.9, p = 0.003); BPD-40, -18.7 (95% CI,	was completed but yielded
training for			were assigned to a	systems component;	BPD offered at the	improved quality of life, also in the longer run. STEPPS	score (BPD-40) respectively.	ts (T2) were done	-31.6 to -5.8, p = 0.005). At 6-	similar results to
emotional predictabil ity and			group, the remaining spots were	family members and significant others are	participating sites. This treatment	was not superior to TAU in reducing impulsive and parasuicidal behaviours, but	Secondary outcome	after the final weekly	month follow-up (T3), the differences were	the per- protocol analysis so
problem solving for			randomly assigned to	actively involved in the	consisted of individual	this may be explained by the low base rate of these	measures included	session of the STEPPS	smaller but still significant: SCL-	only the
borderline personalit			subjects who did not	program.	therapy from a	behaviours in our sample. It may also be that a more	impulsive and parasuicidal	program (mean	90, -38.4 (95% CI, -67.1 to -9.6, p	protocol analysis

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
y disorder.			meet full	The Dutch	psychotherapi	intensive treatment, such as	behaviour, and	23.9 ±3.6	=0.009); BPD-40,	was
Journal of			BPD criteria	version of the	st,	DBT, is required to find	quality of life.	weeks	-14.7 (95% CI,	presented.
Nervous			(these	STEPPS group	psychologist,	differential effects on these	Impulsive and	after T1).	-26.6 to -2.8, p	The
and			participants	program	or psychiatric	behaviours. The merit of the	parasuicidal	Follow- up	=0.016).	comparabili
Mental			were not	involves 18	nurse, offered	STEPPS program is that it is	behaviour were	assessmen		ty of
Disease,			included in	weekly sessions	every 1 to 4	relatively easily learned and	assessed using 2	ts (T3)	Secondary	treatment
198(4),			this	and a single	weeks.	implemented, and	subscales of the	took place	outcomes:	between
299-304.			analysis).	follow-up	STEPPS-	nevertheless improves BPD	Borderline	approxima	In the domain of	sites and
				session 3 to 6	related	treatment in a number of	Personality	tely 6 mths	Psychological	the
The			Age mean	months after	treatments	ways. Further research to	Disorder Severity	after T2	Health, STEPPS	comparabili
Netherlan			(SD)	the conclusion	like DBT or	compare this treatment	Index-IV (BPDSI-	(mean	scores were	ty between
ds			Treatment	of the program.	family groups	with other effective	IV). The	25.7 ±4.2	higher than TAU	different
			32.9 (5.6)	The program	for family	treatments is warranted.	impulsivity	weeks	scores particularly	therapists
			Control 31.8	has 3 main	members of	Importantly, this RCT on	subscale contains	after T2).	at T2 (estimated	was not
			(9.2)	components: (1)	the patients	STEPPS is the first done by	11 items	Outcome	mean difference	assessed.
				psychoeducatio	were not	others than its developers.	reflecting	measures	adjusted for T1	
			Gender –	n about BPD; (2)	allowed.	Detail: Scores on the	potentially	were	score: 2.08 [95%	QC
			female (n,	emotion	In both	primary efficacy measures.	harmful impulsive	assessed	CI, 0.76 –3.41, p	1.1=A
			%)	management	conditions,	SCL-90 and BPD-40	behaviours (e.g.,	on all 3	=0.002]); at T3,	1.2=A
			Treatment	skills training;	the main	symptom scores generally	gambling,	occasions	this difference	1.3=B
			35, 83.3%	and (3)	treatment	decreased from T1 to T3,	reckless driving,		was reduced to	1.4=F
			Control 33,	behaviour	could be	and more so in the STEPPS	binge eating). The		0.91 (95% CI,	1.5=A
			89.2%	management	supplemented	group than in the TAU	parasuicide		-0.32 – 2.15, p	1.6=A
				skills training.	with	group.	subscale contains		=0.146). With	1.7=B
			Diagnosis	STEPPS is	(medication)	Quality of life scores	13 items		respect to Overall	1.8=28.9%
			BPD	system-based in	contacts with	(WHOQOL-Bref) generally	reflecting self-		Quality of Life and	(TX) and
			confirmed	that friends and	a psychiatrist,	increased from T1 to T3.	mutilating,		General Health,	13.2% (C)
			by	relatives of the	social worker,	Overall treatment effects	parasuicidal		Physical Health	1.9= 3
			administerin	patients are	or other	were found for Overall	behaviours and		and Social	1.10=4
			g the BPD	explicitly	health care	Quality of Life and General	suicidal thoughts		Relationships,	2.1 = (+)
			modules	involved in the	professional.	Health, Physical Health, and	and attempts.		STEPPS scores	
			from the	program for		Psychological Health. For	Quality of life was		were significantly	
			Dutch	support and		Social Relationships the	measured with		higher than TAU	
			versions of	reinforcement		overall treatment effect was	the World Health		scores only at T3	
			the	of the newly		a trend, for Environment the	Organization		(estimated	
			Personality	learned skills		overall treatment effect was	Quality of Life		differences 1.80	
			Diagnostic	(the "support		not significant.	Assessment-Bref		[95% CI, 0.30 –	

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of		Gender							
	Evidence		Diagnosis							
			Other Questionnair	group"). They		In both conditions, the	(WHOQOL-Bref)		3.30, p =0.019];	
			e and the	receive		number of patients scoring	(WHOQUL-BIEI)		1.41 [95% CI,	
			Structured	education about		above the cut-off for ratings			0.15–2.66, p	
			Clinical	BPD and are		for the parasuicide and			=0.028]; and 1.86	
			Interview for	instructed how		impulsivity subscales of the			[95% CI, 0.14 –	
			DSM-IV Axis	to interact with		BPDSI-IV decreased from T1			3.57, p =0.035],	
			Il Disorders.	the person with		to T3. There were no			respectively), but	
			Participants	the disorder.		significant differences			not at T2	
			had to be	STEPPS is		between the conditions			(estimated	
			above	administered by		(overall treatment effects).			differences 1.58	
			threshold on	2 mental health		Medication was similar			[95% CI, -0.07–	
			either	professionals, of		between the groups at			3.22, p =0.060];	
			impulsivity	who at least		baseline and remained			0.96 [95% CI,	
			and/or	one is a		stable during follow-up			-0.40 -2.32, p =	
			parasuicide	psychotherapist		assessment.			0.164]; and 0.77	
			subscales of			Over the entire study			[95% CI, -1.08 –	
			the BPD	Subjects		period, patients in the			2.61, p =0.431,	
			Severity	assigned to		STEPPS group received 15			respectively).	
			Index-IV	STEPPS also		STEPPS group sessions on			Odds ratios for	
				received limited		average, and had a mean of			impulsivity were	
			Exclusion	individual		8 contacts with their			(T2): 0.81 (95% CI,	
			Subjects	therapy. This		individual therapist. TAU-			0.26 –2.53, p =	
			were	therapy was		patients had a mean of 9			0.716); and (T3):	
			excluded if	developed as an		individual contacts with			0.68 (95% CI,	
			they did not	adjunct to		their main therapist. In			0.22–2.09, p =	
			speak Dutch;	STEPPS to help		addition to these study			0.501). Odds	
			were	consolidate the		treatment contacts, TAU-			ratios for	
			cognitively	newly acquired		patients reported to have			parasuicide were	
			impaired (IQ	skills and to		had 31 ambulatory therapy			(T2): 2.05 (95% CI,	
			< 70);	stimulate their		contacts on average with			0.66–6.35, p =	
			younger	use. It had a		other mental health care			0.211); and (T3):	
			than 18 yrs;	structured		workers (e.g., psychiatrists,			1.02 (95% CI, 0.35	
			treated	format, in which		psychologists, psychiatric			-2.97, p =0.974).	
			involuntarily	the previous		nurses, social workers).				
			; or	STEPPS session		Patients in the STEPPS			Effect sizes	
			presented	was discussed		condition had a mean of 21			(standardised):	
			an imminent	as well as the		additional ambulatory			Effect sizes for	

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis Other							
			danger to	use of the		therapy contacts.			the differences	
			themselves	learned skills in					between the	
			or others.	everyday life.					treatments at T2:	
				The therapy					SCL-90, 0.68;	
				was offered					BPD-40, 0.68;	
				every 2 weeks					Psychological	
				during the					Health, 0.96.	
				entire study					At T3 effect sizes	
				period.					were: SCL-90,	
									0.56; BPD-40,	
									0.53; Overall	
									Quality of life &	
									General Health,	
									0.61; Physical	
									Health, 0.56;	
									Social	
									Relationships,	
									0.61.	
Carter,	RCT	N=60	Age mean	Modified DBT:	WL + TAU	Summary: The study found	The primary	3 and 6	BDQ days in bed,	Very clear
G.L.,	Level II		(SD):	team-based	The control	no statistically significant	outcomes	month	d=-0.66	on
Willcox,	1	Treatme	Treatment	approach	condition was	differences between	(differences in	follow-up	(-1.25, -0.07),	methods of
C.H.,	The	nt n= 27	24.5 ± 6.12;	including	a 6-month WL	modified DBT and waitlist	proportions and		BDQ days out of	randomisat
Lewin, T.J.,	purpose	Control	Control 24.7	individual	for DBT while	control/TAU except for	event rates) of		role, d= -0.43	ion and
Conrad,	of the	n= 33	± 6.15	therapy, group-	receiving TAU	some quality of life	any deliberate		(-1.01, 0.15),	concealme
A.M., &	present		Candan all	based skills	(TAU+WL).	measures. There were	self-harm (DSH)		Days in hospital,	nt (sealed
Bendit, N. (2010).	study		Gender: all female	training, telephone	Subjects, both in the initial	trends towards modified DBT in reductions in	event; general hospital		d= -0.16 (-0.62, 0.30),	envelopes). Randomizat
Hunter	was to		Terriale	access to an	DBT group	hospitalisations, shorter	admission for DSH		No. hospital	ion
DBT	compare dialectica		Diagnosis:	individual	and in the	lengths of stay, days in bed.	and psychiatric		admissions, d=	occurred
project:	I		BPD via	therapist and	TAU+WL	Authors state: There are	admission for any		-0.22 (-0.68,	after
Randomiz	behaviou		clinical	therapist	group who	several possible	reason; and mean		0.24),	baseline
ed	r therapy		interview by	supervision	came to DBT	explanations given to as to	difference in		No. hospital	assessment
controlled	(DBT)		a	groups	after 6	why DBT was not effective	length of stay for		presentations	
trial of	and the		psychiatrist	following the	months were	in this study: regression to	any		without	Hospitalisat
dialectical	control		using DSM-	model of	offered 12	background (pre-baseline)	hospitalization.		admission, d=	ion data
behaviour	condition		IV criteria.	treatment	months DBT	levels, the Hawthorne effect	Secondary		0.03 (-0.43, 0.49),	was
therapy in	of		To be in the	developed by	treatment,	whereby both groups	outcomes were		No. self-harm	intention to

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
women	treatmen		study,	Linehan et al.	although the	improved because of the	disability and		episodes in	treat but
with	t as usual		needed a	The main	comparison	effect of being in a study,	quality of life		previous 3 mths,	rest was
borderline	plus		history of	change to the	between	the potentially powerful	measures.		d= -0.18 (-0.64,	per-
personalit	weight		multiple	Linehan et al.	groups was	effect of being in a 6 month			0.28),	protocol.
y disorder.	list (WL)		episodes of	model was the	restricted to	TAU+WL group for DBT for	Specific		WHOQOL-BREF	Large
The	for DBT		deliberate	telephone	the first 6	the control condition,	measures:		Environmental	discrepancy
Australian	(TAU+WL		self-harm, at	access to	months of	beneficial effects of the TAU	Composite		domain, d= 0.43	in drop
and New).		least three	individual	DBT versus	condition available in the	International		(-0.14, 0.99),	outs
Zealand			self-	therapists. In	TAU+WL.	Hunter region,	Diagnostic		WHOQOL-BREF	between
journal of			reported	the present		modifications to standard	Interview		Physical domain,	groups.
psychiatry,			episodes in	study telephone		DBT, the possible inferiority	modules: anxiety,		d= 0.69 (0.11,	
(2), 162-			the	access was		of training of DBT therapists	depression,		1.27),	QC
173.			preceding 12	delivered using		to that of those in other	bipolar disorders,		WHOQOL-BREF	1.1=A
			months.	a group roster		studies or inferior	alcohol abuse and		Psychological	1.2=A
				of DBT		adherence to the DBT	dependence,		domain, d= 0.65	1.3=A
			Exclusion:	individual		methods despite adequate	substance abuse		(0.07, 1.23),	1.4=F
			Exclusion	therapists (not		training, and	and dependence		WHOQOL-BREF	1.5=A
			criteria were	contact with		methodological differences.	International		Social domain, d=	1.6=B
			presence of	each		Detail: The present study	Personality		-0.04 (-0.60,	1.7=A
			a disabling	participant's		found reductions in	Disorder		0.53).	1.8=47.4%
			organic	individual		psychiatric hospitalization	Examination			(TX) and
			condition,	therapist)		for both DBT and WL+TAU	Questionnaire			11.4(C)
			schizophreni	between 8:30		over time but no significant	Brief Disability			1.9= B
			a, bipolar	a.m. and 10		benefit in favour of DBT for	Questionnaire			1.10=
			affective	p.m., and		the binary outcome, the	Lifetime			2.1 = (+)
			disorder,	telephone		mean event rate or the	Parasuicidal			
			psychotic	contact with the		mean length of stay for	Count-2			
			depression,	local psychiatric		those with an admission at	Parasuicidal			
			florid	hospital		the end-point of the trial.	History Interview-			
			antisocial	between 10		There were no significant	3 month period			
			behaviour,	p.m. and 8:30		differences in proportions	WHO Quality of			
			or	a.m. Treatment		for general hospital	Life-BREF version			
			developmen	subjects were		admission for DSH or for any				
			tal disability	also assigned to		psychiatric admission. The				
				the relevant		length of stay overall, or the				
				skills training		length of stay for those with				
				group, meeting		either type of admission was				

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of Evidence		Gender Diagnosis Other							
				weekly with the		not significantly different,				
				modules		although the DBT group				
				running in the		tended to have shorter				
				following order:		lengths of stay.				
				Interpersonal		For the per-protocol				
				Effectiveness,		analyses, there were no				
				Emotion		significant differences for				
				Regulation and		the proportion of patients				
				Distress		with any DSH episode in 6				
				Tolerance. Each		months, or for the number				
				module ran for		of self-harm episodes for				
				8 weeks.		the baseline-3 months and				
				Groups had a		3–6 months periods.				
				minimum of 4		There was a significant				
				members		benefit in favour of DBT for				
				before		days spent in bed but no				
				commencement		significant effect for days				
				and a maximum		out of role.				
				of 8 members.		There was a significant				
				Entry to the		beneficial effect in favour of				
				skills group		DBT, for three of the four				
				occurred only at		domains of quality of life:				
				the .		Physical, Psychological and				
				commencement		Environmental.				
				of the next skills						
Davidson,	RCT	N= 106	Ago moon	module. 30 x 1 hr	TAU	Cummany The existent	Structured Clinical	C voor	DDI 4-0.03	No
K. M.,	RCI	n= 106 n= 76	Age mean	sessions of	IAU	Summary: The original positive treatment effect is	Interview for	6 year	BDI, d=0.02	information
1	Lovelli	11= 76	(SD) T= 32.4 ± 9.0	individual		maintained over an average	DSM-IV Axis II	follow-up	(-0.44, 0.47), BSI, d= 0.07	
Tyrer, P.,	Level II	T=43	$C = 31.4 \pm 9.0$	cognitive-		3		Of the		on
Norrie, J.,		C= 33	C- 31.4 ± 9.4	behavioural		of 6 yrs follow-up: a difference of 1.26 suicide	Personality Disorders.		(-0.39, 0.52), EQ-5D	comorbidit
Palmer, S.J., &		C- 33	Gender –	therapy for		attempts over the following	טוטטועפוט.	people who	thermometer, d=	y and prescribed
Tyrer, H.			Female (n,	personality		5 yrs.	Acts of Deliberate	originally	-0.11 (-0.57,	drug use
(2010).			%)	disorders (CBT–		J y13.	Self-Harm	took part n	0.34),	was
Cognitive			T = (45,	PD) over 1 year		Detail: Over the 6-year	Inventory.	= 76/106	EQ-5D weighted	obtained
therapy v.			83.3%)	in addition to		period, 73% (n = 24/33) in	inventory.	(72%)	HSV, d= -0.24	across the
Usual			C = (44,	their usual		the TAU group had made at	Beck Depression	were	(-0.69, 0.22),	trial and

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
treatment			84.6%)	treatment		least one suicide attempt	Inventory (BDI).	interviewe	IIP-32, d=0.18	follow-up,
for						compared with 56% (n =		d at 6 year	(-0.27, 0.64),	and no
borderline			Diagnosis:			24/43) in the CBT–PD group	Spielberger	follow-up.	SFQ, d=-0.18	formal
personalit			BPD, met			(adjusted odds ratio 0.37,	State-Trait		(-0.63, 0.27),	assessment
y disorder:			criteria for			95% CI 0.10–1.38, P= 0.13).	Anxiety Inventory		State-Anxiety, d=	of
Prospectiv			at least 5			In terms of self-harm (non-	(STAI).		-0.19 (-0.64,	interrater
e 6-year			items of BPD			suicidal) there was little			0.27),	agreement
follow-up.			using the			evidence of a difference	Brief Symptom		Suicide attempts,	was carried
British			Structured			between the groups.	Inventory (BSI).		d= -0.32 (-0.77,	out on
Journal of			Clinical			However, it was clear that			0.14),	SCID-II
Psychiatry,			Interview for			the overall rate of self-harm	Participant's		Trait-Anxiety, d=	diagnosis.
197(6),			DSM IV Axis			declined in both groups.	beliefs thought to		-0.10 (-0.56,	Randomizat
456-462.			II Personality			For measures of depression,	be related to		0.35),	ion was
			Disorders.			anxiety, general	personality		Youth Schema	stratified
UK						psychopathology, social	disorder were		Questionnaire,	by high
			Inclusion: to			functioning, quality of life	measured using		d=-0.07	(presence
			enter the			and dysfunctional attitudes,	the Young		(-0.52, 0.39).	of suicidal
			study,			there were no statistically	Schema			acts in past
			participants			significant differences	Questionnaire			12 months)
			had received			between the groups during	(YSQ).			or low
			either in-			follow-up.				(presence
			patient			At 6 yrs, 54% of the sample	Social Functioning			of self
			psychiatric			no longer met diagnostic	Questionnaire			mutilation
			services or			criteria for BPD: 56% (n =	(SFQ).			only in past
			an			24/43) of the CBT–PD group				12 months)
			assessment			and 52% (n = 17/33) of the	Inventory of			episodes of
			at accident			TAU group. There was no	Interpersonal			self-harm,
			and			difference between the	Problems –			using
			emergency			groups in terms of those				randomize
			services or			who continued to meet	Short form 32			d permuted
			an episode			diagnostic criteria (P = 0.44).	(IIP-32).			blocks of
			of deliberate			Defined poor outcome as	Cost effectiveness			size 4.
			self-harm			any suicide attempt in the	via quality-			It was
			(either			follow-up period and	adjusted life-year			completed
			suicidal act			examined the baseline	(QALY), assessed			confidential
I			or self-			predictors of good and poor	using the EuroQol			ly at a
			mutilation)			outcome.	(EQ-5D), and the			separate

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			in the			From all the variables	Client Service			centre.
			previous 12			known to be of prognostic	Receipt Inventory			Therapy
			months.			importance pre-	(CSRI) for the 6			adherence
			Fredrick and			randomisation, only having	months before			measures
			Exclusion: those who			special needs at school was	follow-up			were
			had			specifically associated with the presence of any suicide	interview.			completed.
			evidence of			attempts during the 6-year				QC
			an organic			follow-up.				1.1=A
			illness,			Overall quality of life scores				1.1-A 1.2=A
			mental			for the entire group				1.2-A 1.3=A
			impairment,			remained poor and				1.4=F
			alcohol or			continued to lie within a				1.5=A
			drug			similar range to values				1.6=A
			dependence,			reported for other severe				1.7=A
			schizophreni			mental health populations				1.8= 20%
			a or bipolar			such as severe				(TX) and
			affective			schizophrenia.				36% (C)
			disorder. Did			Use of hospital services				1.9= A
			not exclude			remained high in both				1.10=A
			those who			groups with about 54% of all				2.1 = (++)
			were			individuals having received				, ,
			abusing			in-patient treatment and				
			drugs or			almost two-thirds having				
			alcohol			utilised accident and				
			providing			emergency (A&E) treatment				
			they did not			during the follow-up period.				
			meet criteria			With the exception of in-				
			for			patient and A&E utilisation,				
			dependence			no particularly large				
						differences were observed				
						between the treatment				
						groups. However, the mean				
						length of hospitalisation was				
						markedly lower in the CBT-				
						PD group than for the TAU				
						group (10.81 v. 60.97 days				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
						respectively). Although a				
						similar proportion of				
						patients in both groups				
						attended A&E, both the				
						mean and median number				
						of attendances were higher				
						in the TAU group.				
Doering,	RCT	Treatme	Age mean	Transference-		Summary: Transference	Primary:	Follow-up:	Any suicide	High,
S., Horz,	Level II	nt n=52	(SD):	focused		focused psychotherapy	Drop-outs	1 year	attempts during	differential
S.,		Control	Treatment	psychotherapy:		group had fewer DSM	Suicide attempts		psychotherapy, d	drop out
Rentrop,		n= 52	27.46 ±6.8;	Two 50-minute		features at 1 year, fewer	and self-harming		= -0.08 (-0.47,	
M.,			Control	sessions are		self-harm and suicide	behaviour:		0.30)	QC
Fischer-			27.19 ± 7.5	delivered per		attempts, lower duration	Cornell Interview		BDI, d = 0.12	1.1=A
Kern, M.,				week. Before		and less time as an inpatient	for Suicidal and		(-0.26, 0.51)	1.2=A
Schuster,			Gender – all	treatment		and better psychosocial	Self-Harming		Brief symptom	1.3=A
P.,			females	starts, a		functioning than control	Behaviour- Self		inventory, d =	1.4=F
Benecke,				treatment		group.	Report (CISSB),		0.08 (-0.31, 0.46)	1.5=A
C.,			Diagnosis:	contract is		The drop-out rate was	adapted from the		GAF, d = 0.34	1.6=C
Buchheim,			DSM-IV BPD	negotiated		significantly higher in the	Parasuicidal		(-0.04, 0.73)	1.7=A
A.,			via	orally with the		experienced community	History Interview		Level of	1.8=
Martius,			Structured	individual,		psychotherapists group			personality	Treatment
P.,			Clinical	covering		Detail: There were no	Secondary:		organisation, d =	17% not
Buchheim,			Interview for	general aspects		significant differences	DSM-IV diagnostic		-0.26 (-0.65, 0.12)	assessed at
P. (2010).			DSM and	like duration		between the groups with	criteria for BPD		No. of days in	follow-up;
Transferen			Structured	and payment as		regard to medication at	via SCID		psychiatric	Control
ce-focused			Interview for	well as potential		baseline and during the 1-	GAF		inpatient during	44% not
psychothe			Personality	threats to the		year treatment period.	Beck Depression		psychotherapy,	assessed at
rapy v.			Organisation	treatment		The transference-focused	Inventory		d= -0.23 (-0.61,	follow-up
Treatment				specific to each		psychotherapy group	State-Trait		0.16)	1.9= A
by			Exclusion:	patient (e.g.		showed a significantly	Anxiety Inventory		No. of DSM-IV	1.10=C
communit			Exclusion	suicide		higher proportion of	Brief Symptom		diagnostic criteria	2.1 = (-)
У			criteria were	attempts, drug		participants that fulfilled	Inventory		for BPD, d = -0.56	
psychothe			diagnosis of	misuse or		less than five DSM-IV	Psychiatric		(-0.95, -0.17)	
rapists for			antisocial	anorectic		diagnostic borderline	inpatient		No. of psychiatric	
borderline			personality	behaviour). The		criteria after 1 year and	admissions -		inpatient	
personalit			disorder,	treatment		were not diagnosed BPD any	Cornell Revised		admissions during	
y disorder:			schizophreni	focuses on the		more (42.3% v. 15.4%, P=	Treatment		psychotherapy,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Randomis ed controlled trial. British Journal of Psychiatry, 196(5), 389-395 Germany			Other a, bipolar I and II disorder with a major depressive, manic or hypomanic episode during the previous 6 months, substance dependency (including alcohol) during the previous 6 months, organic pathology or mental retardation.	integration of internalised experiences of dysfunctional early relationships. For this purpose, the actual relationship between the individual and the therapist ('transference relationship') is examined as much as possible. Additional psychotherapy not allowed		0.002). The transference-focused psychotherapy group was significantly superior with regard to the number of DSM–IV diagnostic criteria, psychosocial functioning, personality organisation, suicide attempts and number and duration of psychiatric in-patient treatments. To rule out a mere dose effect of transference-focused psychotherapy, completer analyses were conducted, controlling for the number of therapy sessions delivered. The group differences remained significant for GAF Score, number of DSM–IV borderline criteria, and level of personality organisation. In both groups all but one of the individuals who attempted suicide dropped out of treatment. Those who dropped out were not included in the completer analysis. The results demonstrate the significant superiority of transference-focused psychotherapy with regard	History Inventory (CRTHI) Personality organisation: STIPO		d= -0.47 (-0.86, -0.08) Self-harming during psychotherapy, d= -0.12 (-0.50, 0.27) State-Trait Anxiety X1, d = 0.18 (-0.20, 0.57) State-Trait Anxiety X2, d = 0.04 (-0.35, 0.42)	

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of Evidence		Gender Diagnosis Other							
			0 0.1101			suicide attempts during the				
						treatment year. The same				
						was true for the secondary				
						outcome criteria reduction				
						of DSM-IV diagnostic				
						borderline criteria,				
						psychosocial functioning,				
						level of personality				
						organisation and psychiatric				
						in-patient admissions.				
						Participants in the				
						transference-focused				
						psychotherapy group				
						received 48.5 (s.d. = 34.2)				
						sessions and those in the				
						experienced community				
						psychotherapists group 18.6				
						(s.d. = 24.0) sessions of				
						individual psychotherapy				
						within the 1-year study				
						period.				
						Future research should look				
						at long-term follow-up,				
						since effects of				
						psychotherapy seem to take				
						yrs to develop and to				
						continue after termination				
						of treatment				
						Transference-therapists				
						received more supervision				
						and had assessment of				
						treatment adherence. Large				
						difference between dropout				
						rates between groups.				
						Control group participants				
						attended fewer sessions				
						than the intervention group.				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							_
Lieb, K.,	SR	N= 27	Participants	Olanzapine vs	Varied by	Summary: Little evidence	Primary outcomes	Study	Standardised	Authors
Vollm, B.,	Level I	studies	were adults	placebo – 6	study	for effectiveness of	were overall	durations	mean difference	state that
Rucker, G.,			from mostly	studies,		antidepressants. There were	disorder severity	ranged	(SMD 95% CI),	the
Timmer,		Twenty-	outpatient	Carbamazepine		positive effects for	as well as specific	from 5 to	standardised	robustness
Α.,		seven	settings.	vs placebo – 1		valproate, lamotrigine and	core symptoms.	24 weeks,	mean change	of findings
Stoffers,		trials	There was a	study,		topiramate but not		with a	(SMC) or risk ratio	is low,
J.M.		were	mix of male	Valproate		carbamazepine. Haloperidol	Secondary	mean	(RR, 95% CI)	since they
(2010)		included	and female	semisodium vs		reduced anger, flupenthixol	outcomes	duration of	Effect sizes vs.	are based
Pharmaco		in which	participants	placebo – 2		reduced suicidal behaviour,	comprised	approxima	placebo:	mostly on
therapy		first and	ranging from	studies,		aripiprizole reduced	associated	tely 84	First generation	single,
for		second	16 – 314	Thiothixene vs		pathology. Omega 3 fatty	psychiatric	days (s.d.	antipsychotics	small
borderline		generati	with 1714	placebo – 1		acids may reduce depressive	pathology and	= 54.7).	Haloperiodol for	studies.
personalit		on	participants	study, Omega 3		symptoms but few studies	drug tolerability		anger SMD -0.46	
y disorder:		antipsyc	in total.	fatty acids vs					(-0.84, -0.09)	QC
Cochrane		hotics,		placebo – 2		Detail: First generation			Flupentixol	1.1 =A
systematic		mood		studies,		antipsychotics – The			decanoate for	1.2 =A
review of		stabiliser		Loxapine		comparisons of first-			suicidal behaviour	1.3 =A
randomise		s,		Chlorpromazine		generation antipsychotics			RR 0.49 (0.29,	1.4 =A
d trials.		antidepr		vs placebo - 1		(FGAs) with placebo yielded			0.92) No proof of	1.5 =B
British		essants		study,		significant effects for			efficacy for	2.1 (+)
Journal of		and		Topiramate vs		haloperidol in the reduction			thiothixene.	
Psychiatry.		omega-3		placebo – 3		of anger and flupentixol				
196(1), 4-		fatty		studies,		decanoate in the reduction			Second-	
12.		acids		Aripiprazole vs		of suicidal behaviour. No			generation	
		were		placebo – 1		proof of efficacy was found			antipsychotics	
UK		tested		study,		for thiothixene for any			Aripiprazole for	
				Ziprasidone vs		outcome. Tolerability			anger SMD -1.14	
				placebo - 1		between active and placebo			(-1.73, -0.55), for	
				study,		treatment did not differ in			psychotic	
				Fluvoxamine vs		any comparison.			symptoms SMD	
				placebo - 1		Second generation			-1.05 (-1.64,	
				study,		antipsychotics – Among			-0.47), for	
				Fluoxetine vs		second-generation			impulsivity SMD	
				placebo – 2		antipsychotics (SGAs),			-1.84 (-2.49,	
				studies,		aripiprazole was found to			-1.18), for	
Ì				Haloperidol		have both significant effects			interpersonal	
				Phenelzine		in the reduction of the core			problems SMD	

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
				sulphate vs		pathological symptoms of			-0.77 (-1.33,	
				placebo – 1		BPD, as investigated by one			-0.20), for	
				study,		trial with 52 participants. Six			depression SMD	
				Haloperidol		trials compared olanzapine			-1.25 (-1.85,	
				Amitriptyline vs		with placebo; among these			-0.65), for anxiety	
				placebo – 1		were two large studies			SMD -0.73 (-1.29,	
				study,		including approximately 300			-0.17), for general	
				Lamotrigine vs		participants each.			severity of	
				placebo – 1		Unfortunately, the different			psychiatric	
				study,		formats of result reporting			pathology SMD	
				Olanzapine,		(end-point v. change data)			-1.27 (-1.87,	
				Fluoxetine		did not allow pooling of all			-0.67).	
				Olanzapine +		study estimates for the			Olanzapine for	
				fluoxetine – 1		majority of outcomes. There			affective	
				study,		were also statistically			instability SMC	
				Flupentixol		significant benefits for the			-0.16 (-0.32,	
				decanoate vs		reduction of anxiety.			-0.01), for anger	
				placebo - 1		However, results for suicidal			SMC -0.27 (-0.43,	
				study,		ideation were inconsistent			-0.12), for	
				Mianserin vs		Mood stabilisers – Beneficial			psychotic	
				placebo – 1		effects were found for the			symptoms SMC	
				study.		mood stabilisers valproate			-0.18 (-0.34,	
						semisodium (divalproex			-0.03), for anxiety	
						sodium), lamotrigine and			mean change	
						topiramate, but not for			difference	
						carbamazepine.			-0.22 (-0.41,	
						Antidepressants - There was			-0.03), for suicide	
						little evidence of			ideation SMC 0.29	
						effectiveness for			(0.07, 0.50), for	
						antidepressant treatment.			suicidality SMD	
						Other drugs – For			0.15 (-0.36, 0.65),	
						supplementary omega-3			self-harm RR 1.20	
						fatty acids, significant			(0.50, 2.88).	
						effects were found in one			No significant	
						study for the reduction of			effects for	
						suicidality and depressive			ziprasidone.	
						symptoms. There was also			Mood stabilisers	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						an effect estimate of a			Valproate	
						second study for depressive			semisodium for	
						symptoms, but because of			interpersonal	
						different formats of			problems SMD	
						reporting it could not be			-1.04 (-1.85,	
						pooled with the first one.			-0.23), for	
						However, these findings also			depression SMD	
						tended towards better			-0.66 (-1.31,	
						results in participants given			-1.01), for two	
						omega-3 fatty acids.			studies of anger	
						Tolerability and safety –			SMD -1.83 (-3.17,	
						Tolerability did not differ for			-0.48) and SMD	
						any drug-placebo			-0.15 (-0.91,	
						comparison, i.e. drug			0.61).	
						treatment was not			Lamotrigine for	
						associated with a higher			impulsivity SMD	
						ratio of non-completers			-1.62, (-2.54,	
						than was placebo			-0.69)	
						treatment. Detailed data on			Topiramate for	
						adverse effects were			interpersonal	
						available for olanzapine			problems SMD	
						treatment. Participants			-0.91 (-1.36,	
						treated with this drug were,			-0.35), for	
						overall, no more likely to			impulsivity SMD	
						experience any adverse			- 3.36 (-4.44,	
						effect than were members			-2.27), for anger	
						of the control group.			in males SMD	
						Adverse effects were also			-0.65 (-1.27,	
						reported in detail for			-0.03), for anger	
						topiramate treatment. Data			in females SMD	
						on the frequency of memory			-3.00 (-3.64,	
						problems, trouble in			-2.36), for anxiety	
						concentrating, headache,			SMD -1.40 (-1.99,	
						fatigue, dizziness, menstrual			-0.81), for general	
						pain and paraesthesia were			psychiatric	
						also available for one RCT,			pathology SMD	
						with no significant			-1.19 (-1.76,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						difference in frequency			-0.61)	
						between the topiramate			Antidepressants	
						and placebo groups			Amitriptyline for	
						comparison.			depression SMD	
						Drug vs drug - Two FGAs,			-0.59 (-1.12,	
						loxapine and			-0.06). No	
						chlorpromazine, were			significant effects	
						compared in one study with			for miansein,	
						80 participants. Tolerability			fluoxetine,	
						did not differ significantly.			fluvoxamine or	
						However, there was no			phenelzine	
						usable information on any			sulphate.	
						pathology-related outcome.			Other drugs	
						Two antidepressants were			Omega-3 fatty	
						compared with the FGA			acids for	
						haloperidol. The tricyclic			sucidality RR 0.52	
						antidepressant amitriptyline			(0.27, 0.95), for	
						did not differ significantly			depression RR	
						from haloperidol treatment			0.48 (0.28, 0.81)	
						for any outcome. The			and SMD -0.34	
						monoamine oxidase			(-1.15, 0.46).	
						inhibitor phenelzine			Tolerability and	
						sulphate, however, proved			safety ⁵	
						to be superior to			Olanzapine for	
						haloperidol in the reduction			adverse events RR	
						of depression and general			1.13 (1.00, 1.28),	
						psychiatric pathology, and in			for weight gain RR	
						improving mental health			1.05 (0.90, 1.20),	
						status as investigated in one			increased	
						study. No significant effect			appetite RR 2.78	
						was found for the			(1.75, 4.34),	

⁵ Please note blood measures are available but not reported here

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						comparison of the SGA olanzapine with the antidepressant fluoxetine for any pathology related outcome. Drug vs combination of drugs - One trial tested the effects of olanzapine and fluoxetine separately against their combination. There was no significant difference indicating any benefits from combined treatment v. treatment with olanzapine or fluoxetine alone. Tolerability did not differ significantly. Detailed data were available for body weight change, the frequency of restlessness and mild sedation. There was no significant difference.			somnolence RR 2.97 (1.75, 5.03), dry mouth RR 2.24 (1.08, 4.67), sedation RR 9.23 (2.18, 39.12) and RR 1.26 (0.44, 3.66). Topiramate on weight loss SMD -0.55 (-0.91, -0.19). Haloperidol on weight gain SMD -0.18 (-0.70, 0.34) Phenelzine sulphate on weight gain SMD 0.11 (-0.39, 0.61) Effect sizes drug vs. drug comparisons Phenelzine sulphate superior to haloperidol for depression SMD -0.68 (-1.19, -0.17), anxiety SMD -0.66 (-1.16, -0.15), general psychiatric pathology SMD -0.53 (-1.03, -0.03), improving mental health status SMD 0.51 (0.01, 1.01).	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Leiberich, P., Nickel, M.K., Tritt,	RCT Level 2	LG Group n = 18	Diagnosis of BPD had to be	In the initial 8 week study: Lamotrigine was	Placebo initially provided for 8	Summary: Lamotrigine - significant reduction in anger and	State-Trait Anger Expression Inventory	8 wks for initial blinded	Olanzapine had more weight gain than fluoxetine SMD 0.98 (0.20, 1.76), and more mild sedation RR 3.50 (1.23, 9.92). No significant effect sizes reported for any other drug vs. drug comparisons Standardised change scores between baseline	The study was limited in sample
K., & Gil, F.P. (2008). Lamotrigin e treatment of aggression in female borderline patients, part ii: An 18-month follow-up. Journal of Psychopha rmacology , 22(7), 805-808	Double blind RCT, which was broken after the conclusio n of final testing in the initial trial (8 weeks) 2:1 randomis ation	PG Group n=9	confirmed by means of an interview with SCID II. Sample was All women. LG Group - mean age 29 PG Group - mean age 28 Participants were outpatients referred through "family doctors".	titrated from 50 mg in the first 2 weeks, to 100 mg in the third week, then to 150 mg in the fourth and fifth weeks and finally to a dose of 200 mg/day in the sixth, seventh and eighth weeks. 200 mg/day lamotrigine continued to be taken up to 18 months.	weeks. After 8 weeks, blind was broken and participants randomised to placebo took neither lamotrigine or placebo.	aggression measured by the STAXI than placebo. No serious side effects but some adverse events during the trial: self-mutilation (LG), attempted suicide (placebo) and weight loss (both) Detail: The LG experienced significantly greater changes than the placebo/Ex-PG on all STAXI scales. No serious side effects were observed. In isolated cases, relatively mild rash, dizziness, headache and nausea were reported. Two subjects from the Ex-PG and one from the LG engaged in self-mutilation	(STAXI)	treatment period. 18 mth long-term follow-up observatio ns were reported, after blinding was discontinu ed.	and follow-up for lamotrigine group: STAXI Anger-In d = -1.41 (95% CI -2.15, -0.67) STAXI Anger-Out d = -2.95 (95% CI -4.16, -1.74) STAXI State Anger d = -4.08 (95% CI -5.68, -2.42) STAXI Trait Anger d = -3.98 (95% CI -5.55, -2.42) Weight d = -0.12 (95% CI -0.65, 0.41) Standardised change scores	size with particularly high drop out in the former control group and also limited due to the discontinua tion of blinding after 8 weeks of treatment. QC 1.1=A 1.2=B 1.3=B
Germany						and one from the Ex-PG attempted suicide during			between baseline and follow-up for	1.4=A 1.5=A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						the study. In addition, weight loss was observed after eighteen months treatment. In the LG, weight loss was no more significant than in the PG.			placebo group: STAXI Anger-In d = 1, (95% CI -0.38, 2.39) STAXI Anger-Out d = 0.10 (95% CI -1.04, 1.23) STAXI State Anger d = -0.03 (95% CI -1.16, 1.10) STAXI Trait Anger d = 0.22 (95% CI -0.93, 1.36) Weight d = 0.09 (95% CI -1.04, 1.23) Standardised mean difference between treatment and control at follow-up: STAXI Anger-In d = -3.29 (95% CI -4.95, -1.62) STAXI Anger-Out d = -3.45 (95% CI -5.16, -1.75) STAXI State Anger d = -3.94(95% CI -5.76, -2.12) STAXI Trait Anger d = -5.87 (95% CI -8.20, -3.53) Weight d = -2.06(95% CI -2.71, -1.41)	1.6=C 1.7=A 1.8=22.2% and 66.7% 1.9= A 1.10=F 2.1 = (+)

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of Evidence		Gender Diagnosis Other							
McMain,	RCT	Treatme	Age mean	Dialectical	General	Summary: both groups	Structured Clinical	Assessed	Risk of suicide	QC
S.F., Links,		nt	(SD)	behaviour	psychiatric	improved on most	Interview for	at baseline	and self-injurious	
P.S.,	Level II	n=90	T=29.4±9.2	therapy.	management.	measures, except the	DSM-IV Axis I	and every	episodes	1.1=A
Gnam,		Control	C= 31.3±10.6			utilization of non-study	Disorders-Patient	4 months	rpb=0.89	1.2=A
W.H.,		n= 90		Multimodal:	Consisted of	treatments decreased	Edition	over the 1-		1.3=A
Guimond,			Gender	Individual	case	significantly more in the DBT	International	year active	Symptom severity	1.4=F
T.,		The	Female (n,%)	sessions (1 hour	management,	group than in the general	Personality	treatment	(ZRSBPD) rpb	1.5=A
Cardish,		primary	T= (81, 90%)	weekly); skills	dynamically	psychiatric management	Disorder	phase	=1.13	1.6=A
R.J.,		goal: to	C= (84,	group (2 hours	informed	group	Examination			1.7=A
Korman,		eliminate	82.2%)	weekly); phone	psychotherapy				Depression (BDI)	1.8=Treatm
L., &		behaviou	,	coaching (2	, and	Detail: The utilization of	Treatment		rpb =1.07	ent 39%;
Streiner,		ral	DSM-IV	hours weekly).	symptom-	non-study treatments	fidelity: modality			Control
D.L.		dyscontr	criteria for	, ,	targeted	decreased significantly more	specific		Anger (State-Trait	38%
(2009). A		ol by	BPD via	Consultation	medication	in the DBT group than in the	adherence scales		Anger Expression	1.9= A
randomize		helping	Structured	team for	management.	general psychiatric			Inventory - Anger	1.10=F
d trial of		patients	Clinical	therapists		management group (odds	Frequency and		out) rpb =0.32	2.1 = (+)
dialectical		develop	Interview	mandated (2	Individual	ratio = 0.52, p =0.002).	severity of			
behaviour		more		hours weekly).	sessions (1		suicidal and non-		Health-related	
therapy		effective	Inclusion:		hour weekly)	The mean adherence scores	suicidal self-		QoL (EQ-5D) rpb	
versus		coping	Patients had	Organized	including	for essential interventions	injurious		=0.24	
general		strategie	to meet	according to a	medication	were significantly greater	behaviour			
psychiatric		S.	DSM-IV	hierarchy of	management	than the mean adherence	episodes: Suicide		Symptom distress	
managem			criteria for	targets: suicidal,	based on	score for proscribed	Attempt Self-		(SCL-90-R) rpb	
ent for			BPD, be 18-	treatment-	structured	dialectical behaviour	Injury Interview		=0.68	
borderline			60 yrs of	interfering, and	drug	therapy items across all				
personalit			age, and	quality-of-life-	algorithm.	time points.	Borderline		Interpersonal	
y disorder.			have had at	interfering			symptoms:		functioning	
The			least two	behaviours.	Therapist	Both groups showed	Zanarini Rating		(Inventory of	
American			episodes of		supervision	statistically significant	Scale for BPD		Interpersonal	
journal of			suicidal or	Explicit focus on	meeting	decreases in the frequency			Problems-64) rpb	
psychiatry,			nonsuicidal	self-harm and	mandated (90	of suicidal episodes (odds	General		=0.45	
(12), 1365-			self-injurious	suicidal	minutes	ratio = 0.23, p = 0.01) and	symptoms:			
1374.			episodes in	behaviour.	weekly). Focus	nonsuicidal self-injurious	Symptom			
			the past 5		is expanded	episodes (odds ratio = 0.52,	Checklist-90-			
Canada			yrs, at least	Treatment	away from	p =0.03).	Revised			
1			one of which	involves:	self-harm and					
			was in the 3	dialectical	suicidal	There were no b/w group	State-Trait Anger			

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			months	strategies,	behaviours.	differences in the frequency	Expression			
			preceding	irreverent and		of suicidal episodes or				
			enrolment.	reciprocal	Psychodynami	nonsuicidal self-injurious	Inventory			
				communication	c approach	episodes.	Beck Depression			
			Exclusion:	style, formal	emphasized		Inventory			
			Were limited	skills training.	the relational	Those with any suicidal or				
			to having a		aspects and	nonsuicidal self-injurious	Inventory of			
			DSM-IV	Behavioural	early	episodes experienced a	Interpersonal			
			diagnosis of	strategies:	attachment	significant decrease in the	Problems, 64-			
			a psychotic	exposure,	relationships.	medical risk over time, but	item version			
			disorder,	contingency		there was no between-				
			bipolar I	management,	Disturbed	group difference.	Health-related			
			disorder,	diary cards,	attachment		quality of life: EQ-			
			delirium,	behavioural	relationships	Using mixed-effects linear	5D thermometer			
			dementia, or	analysis.	related to	growth curve analyses,	Treatment			
			mental		emotion	significant decreases over	History Interview:			
			retardation	Patients	dysregulation	the 1-year treatment period	self-reported			
			or a	encouraged to	as a primary	(but no between-group	counts of the			
			diagnosis of	rely on skills	deficit.	differences) were found for	number of			
			substance	over pills where		the following variables:	hospital			
			dependence	appropriate	Involves	borderline symptoms,	admissions, days			
			in the	(e.g.,	attention to	depression, interpersonal	in hospital,			
			preceding 30	anxiolytics).	signs of	functioning, symptom	emergency			
			days; having		negative	distress, and anger.	department visits,			
			a medical	Tapering from	transference.	On health-related quality of	medications, and			
			condition	medications		life (based on the EQ-5D	outpatient			
			that	was a treatment	Patients were	thermometer), both groups	psychosocial			
			precluded	goal.	encouraged to	reported improvements, but	treatments.			
			psychiatric		use	these changes were not				
			medications;		medications	statistically significant.	Reasons for Early			
			living		concurrently.		Termination From			
			outside a 40-			Based on generalized-	Treatment			
			mile radius			estimating-equation	Questionnaire			
			of Toronto;			analysis, participants in both				
			having any			groups showed statistically				
			serious			significant decreases in the				
			medical			total number of emergency				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			condition			department visits (odds				
			likely to			ratio = 0.43, p<0.0001), with				
			require			no statistically significant				
			hospitalizati			differences between groups.				
			on within							
			the next			Both groups demonstrated				
			year (e.g.,			statistically significant				
			cancer); and			reductions in the number of				
			having plans			emergency department				
			to leave the			visits for suicidal behaviour				
			province in			(odds ratio = 0.35,				
			the next 2			p<0.0001), with no				
			yrs			between-group differences.				
Morey,	RCT	Treatme	Age mean	Manual-	MACT alone	Summary: Reduction in both	Borderline		Effect sizes	6 of 7
L.C.,	Level II	nt n=8	(SD):	Assisted	6 sessions	conditions on BPD	measures		between groups:	completers
Lowmaste			Treatment	Cognitive		symptoms, suicide and self-	Diagnostic		Number of	were
r, S.E., &		Control	32.5±9.41;	behaviour		harm among those that	Interview for		sessions	concurrentl
Hopwood,		n= 8	Control	Therapy (MACT)		completed treatment,	DSM-IV		attended: d =	y being
C.J.			29.63±8.72	+ Therapeutic		especially affective	Personality		-0.16.	treated
(2010). A				Assessment (TA)		instability	Disorders		Standardised	with
pilot study			Gender –			Detail: No significant	DIPD-IV		mean difference	medication
of manual-			female (n,	6 sessions		retention rate differences			for treatment	s whereas
assisted			%):	MACT is a 6-		between conditions were	Personality		completers: in	only 3 of 9
cognitive			Treatment 7	session,		observed, with four MACT	Assessment		MACT+TA:	non-
therapy			(87.5%),	manualized		condition (50%) and five	Inventory (PAI)		PAI-BOR d=0.95	completers
with a			Control 6	therapy that		TA+MACT condition (63%)			BOR-A d=4.35	were being
therapeuti			(75%)	targets		participants failing to	Borderline		BOR-I d=0.57	treated
С				deliberate self-		complete all 6 sessions of	Features scale		BOR-N d=0.82	with
assessmen			Diagnosis:	harm,		treatment.	(BOR) with four		BOR-S d=0.52	medication
t			BPD via	incorporating		Among those who did	subscales		PAI-SUI d=1.72	s,
augmenta			Diagnostic	elements of		complete treatment,	(Affective		SPS d=1.37	suggesting
tion for			Interview for	other cognitive-		significant improvements	Instability,		SPS-S d=1.75	that
borderline			DSM-IV	based		were observed in both	Identity		Standardised	concurrent
personalit			Personality	interventions		conditions with respect to	Disturbance,		mean difference	psychiatric
y disorder.			Disorders	for BPD.		reducing both borderline	Negative		for treatment	care may
Psychiatry			DIPD-IV.	In addition to		symptomatology and	Relationships,		completers: in	promote
Research,			56% of these	the standard		suicidal ideation.	and Self-Harm)		MACT:	retention in

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
178(3),			individuals	MACT		For those who completed			PAI-BOR d=1.22	MACT
531-535.			were	orientation		treatment there was a	Personality		BOR-A d=0.85	
			currently	material, the		substantial and significant	Diagnostic		BOR-I d=0.93	QC
USA			taking	first session also		main effect for change in	Questionnaire		BOR-N d=0.31	1.1=A
			psychotropic	included an		PAI-BOR from baseline to	(PDQ-4) —		BOR-S d=0.56	1.2=B
			medication	individualized		post-treatment. Analyses of	Borderline scale		PAI-SUI d=2.27	1.3=C
			but no	collaborative		BOR subscales suggest a			SPS d=0.56	1.4=F
ı			individuals	assessment.		significant change in	Suicidal ideation:		SPS-SI d=0.77	1.5=A
			were	This procedure		affective instability and a	Personality		Carry-forward	1.6=A
			receiving	included		moderately significant	Assessment		effect sizes are	1.7=A
			other	developing		change in self-harm. No	Inventory Suicidal		also available in	1.8=MACT
			psychosocial	questions that		significant differences in	Ideation (SUI)		the paper. They	+ TA: 63%
			intervention	the client would		treatment response across	Suicide		are more	failed to
			S.	like to "ask the		study groups were found for	Probability Scale		conservative than	completed
				test data" about		borderline features,	(SPS) with four		those presented.	all 6
			Exclusion:	themselves and		although large differential	subscale scores:			sessions of
			Inclusion	the articulation		changes in BOR-A were	Hopelessness,			treatment;
			criteria were	of specific,		observed that approached	Suicidal Ideation,			MACT: 50%
			scores a)	individualized		significance, suggesting	Negative Self-			failed to
			N70 on PAI	treatment		superior treatment	Evaluation, and			completed
			BOR and	goals. During		response in the TA+MACT	Hostility.			all 6
			SUI, b) z5 on	the second		group.				sessions of
			the PDQ-4	session, the		With regard to suicidal				treatment
			BPD, c) N70	therapist and		ideation, participants				1.9= B
			on the SPS	client discussed		reported substantial and				1.10=F
			total and d)	the assessment		significant decreases on				2.1 = (+)
			N5 BPD	results and		both the PAI-SUI and SPS-SI.				
			symptoms	motivational		Again, a trend for a group-				
			on the DIPD-	feedback was		by-time interaction was				
			IV.	provided, in		found for SPS-SI, also				
			Participants	addition to		suggesting a larger				
			were	implementing		improvement over time in				
			excluded if	the second		the TA+MACT group.				
			they	MACT session.		To examine client				
			exhibited an	Aside from		improvement at the				
			active	these		individual level, reliable				
			psychosis, a	augmentations		change indices (RC) were				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other	_						
			history of	to the first two		computed to determine				
			schizophreni	sessions, the		whether the MACT				
			a, or	manual for the		treatment significantly				
			substance	remainder of		improved borderline				
			intoxication	the treatment		symptomatology and				
			or	was identical for		suicidal ideation. Of the 7				
			withdrawal	both conditions.		participants who completed				
						treatment, 5 (71%) showed				
						significant reductions on				
						PAI-BOR. With regard to				
						suicidal symptoms, 3 of the				
						7 participants (43%)				
						demonstrated significant				
						improvement on the SPS				
						and 6 out of 7 (86%) had				
						significant decrement in				
						suicidal ideation as measured by the PAI-SUI.				
						For all participants: Using carry-forward methodology				
						to provide a more				
						conservative estimate of				
						changes observed, there				
						was significant main effect				
						for change in PAI-BOR from				
						baseline to post-treatment.				
						With respect to suicidal				
						ideation, significant				
						decreases were observed on				
						the PAI-SUI and SPS-SI. No				
						significant differences in				
						treatment response across				
						groups were found for				
						borderline features or				
						suicidal ideation using this				
						more conservative carry-				
						forward approach.				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
Caland	DCT	T	Other	D: 1 .: 1	C. I. I.		200	42	Data and an annual	00
Soler, J.,	RCT	Treatme	Age mean	Dialectical	Standard	Summary: mental state and	BPD core	13 weekly	Between group	QC
Pascual,	Level II	nt n=29	(SD)	behaviour	group therapy	psychopathology scales	symptoms:	sessions	standardised	1.1=A
J.C., Tiana,			T= 28.45 ±	therapy - Skills	(SGT)	showed significant	Clinical Global		mean differences	1.2=A
T., Cebria,		Control	6.55	training (DBT-	The SGT	difference favouring DBT-ST.	Impression-BPD		d(95% CI)	1.3=E
Α.,		n= 30	C=29.98 ±	ST)	format was		(CGI-BPD)		No. of	1.4=B
Barrachina			5.63	DBT-ST and SGT,	oriented to	Detail: No significant			medications, d=	1.5=B
, J.,				consisted of	provide a	differences of mean number	Hamilton Rating		-0.16 (-0.45, 0.13)	1.6=A
Campins,			Gender	thirteen	relational	of attended sessions	Scale-Depression		No. of non-study	1.7=A
M.J.,			Female (n,	psychotherapy	experience,	between the two groups.	(HRSD-17)		tre, d= -0.39	1.8=Treatm
Perez, V.			%)	sessions of 120	allowing	DBT-ST group showed a			(-0.690, -0.10)	ent: 34%
(2009).			T= (23,	min each, 2	people with	significant improvement in	Hamilton Rating		HRSD-17, d= -0.98	drop out;
Dialectical			79.3%)	therapists (a	BPD to share	more psycho- pathology	Scale-Anxiety		(-1.52, -0.44)	Control:
behaviour			C= (26,	male and a	their	scales.	(HRSA)		HRSA, d= -0.68	63% drop
therapy			86.7%)	female) for each	characteristic	DBT-ST group showed a			(-1.21, -0.16)	out;
skills				group, in groups	difficulties.	greater decrease in	Psychotic		BPRS, d=-0.67	Intention
training			Diagnosis:	of 9–11	Prominent	depression, anxiety and	symptoms:		(-1.19, -0.14)	to treat
compared			BPD via	participants.	techniques	general psychiatric	Brief Psychiatric		BDI Irritability, d=	analysis
to			Structured	The DBT format	used were	symptoms compared with	Rating Scale		-0.61 (-1.13,	1.9= A
standard			Clinical	used was	interpretation	the SGT group.	(BPRS)		-0.09)	1.10=F
group			Interview for	adapted from	(although this	Regarding the SCL90-R, HLM			BDI Indirect	2.1 = (+)
therapy in			DSM-IV Axis	the standard	was not used	analysis showed statistically	Psychiatric		Hostility, d=0.51	Large
borderline			II Disorders	version,	systematically	significant differences in the	symptoms:		(-1.03, 0.01)	differences
personalit			(SCID-II) and	applying one of), highlighting,	psychoticism subscale, and	Symptom		SCL-90-R GSI, d=	in retention
y disorder:			the Revised	the four modes	exploration,	in the BDI irritability	Checklist, Revised		-0.42 (-0.95, 0.09)	
A 3-month			Diagnostic	of intervention:	clarification	subscale.	(SCL90-R)		SCL-90-R	
randomise			Interview for	skills training.	and	A greater decrease was	,		Interperson, d=	
d			Borderlines	DBT-ST included	confrontation.	detected in the DBT-ST	Hostility/irritabilit		-0.81 (-1.34,-0.28)	
controlled			(DIB-R).	all the original	The therapists	condition.	y: Buss-Durkee		SCL-90-R Hostility,	
clinical			, ,	skills.	mainly played	Both treatment conditions	Inventory (BDI).		d= -0.34 (-0.85,	
trial.			Exclusion:		a role of	showed significant	, ,		0.17)	
Behaviour			Inclusion	These skills can	conductor in	reductions in CGI-BPD global	Impulsivity:		SCL-90-R	
Research			criteria	be divided into	group	severity scores.	Barrat Inventory		Psychoticism, d=	
and			consisted of:	those that	interactions,	However, no significant	(BI).		-0.58 (-1.10,	
Therapy,			1) meeting	promote	and targeted	differences were displayed			-0.06)	
47(5), 353-			the DSM-IV	change,	specially	between groups in HLM	In addition to		CGI-BPD Global,	
358.			diagnostic	interpersonal	nihilistic or	analysis.	clinical scales,		d=-1.02, (-1.57,	
			criteria for	effectiveness	destructive	In this measure, several	they rated self-		-0.48)	

Lev	idy sign/ vel of dence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Spain			BPD; 2) age between 18 and 45 yrs; 3) no comorbidity with schizophreni a, druginduced psychosis, organic brain syndrome, alcohol or other psychoactive substance dependence, bipolar disorder, mental retardation, or major depressive episode in course; 4) Clinical Global Impression of Severity (CGI-S) score ≥ 4; 5) no current psychothera py.	and emotional regulation skills, and those that promote acceptance, mindfulness and distress tolerance skills. Similar to other skills training in behavioural treatments, DBT-ST includes teaching, insession practice of new skills and homework assignments to practice each skill every week. DBT-ST intervention was led by two cognitive behavioural psychotherapists with prior experience in BPD group therapy	interactions, characteristic BPD interactions and those that could interfere with group functioning. SGT interventions were led by two experienced psychodynami c-oriented psychotherapi sts.	specific sub-scales, such as: anger, emptiness, and affect instability, had a significantly greater reduction in DBT-ST compared to SGT. No differences were seen in the other scales (impulsivity) or behavioural reports (number of self- harm behaviours, suicides or emergency visits) used in the study.	injury, suicide attempts, and visits to psychiatric emergency services		CGI-BPD Unstable rel, d= -0.29 (-0.80, 0.22) CGI-BPD Impulsivity, d= -0.62 (-1.15,-0.10) CGI-BPD Suicide, d= -0.10 (-0.61, 0.41) CGI-BPD Affect Instability, d= -1.08 (-1.63, -0.53) CGI-BPD Anger, d= -0.85 (-1.38, -0.32) CGI-BPD Emptiness, d= -0.44 (-0.95, 0.08) CGI-Global Improv-Patient, d=0.68 (0.16,1.21)	

Stoffers, Cochr J., Völlm, Syster B.A., ic Rev Rücker, G., Level	emat sample	Other Adult							
J., Völlm, Syster B.A., ic Rev	emat sample			+					<u> </u>
B.A., ic Rev	•		Any drug or a	Comparison	Summary: Total BPD	Primary	Variable	Altogether, 28	Results are
	eview ranged	•	defined	treatments	severity was not	outcomes:		RCTs have been	mostly
l Rucker, G., I Level			combination of	were classified	significantly influenced by	Overall BPD		included, covering	based on
* *			drugs	in four	any drug. There was little	severity		22 different	single study
Timmer,	16 to n	-	administered on	categories:	evidence for effectiveness	Severity of single		comparisons in	effect
A.,	314 in	BPD	a long-term	• placebo;	of antidepressants. There	BPD criteria		ten comparison	estimates.
Huband,	size.	according to	basis (i.e. not	• active	was little effect of	according to DSM		categories.	1 4
N., Lieb, K.	In tota	, DSM criteria.	only in case of	comparator	antipsychotics but	(avoidance of		l., th.,	Long-term
(2010)	the		crisis only) with	drug;	olanzapine may increase	abandonment,		In the presence of	use of
Pharmacol	include		the intention to treat BPD	• combination	self-harming, weight gain.	dysfunctional		the multitude of	these drugs
ogical	studies			of drugs;	Dataily First and anotice	interpersonal		different	has not
interventi	provide		pathology.	• combined	Detail: First-generation	patterns, identity		comparisons	been
ons for	data	either the		treatment, i.e.	antipsychotics (flupenthixol	disturbance,		and outcome	assessed.
borderline	from 1742	USA (14		drug plus	decanoate, haloperidol,	impulsivity,		variables, most	Canalysiana
personalit		studies) or in		concomitant	thiothixene); second-	suicidal ideation,		results are based	Conclusions
y disorder.	patient			psychotherap	generation antipsychotics	suicidal		on single study	have to be
Cochrane		European		eutic	(aripirazole, olanzapine,	behaviour, self-		findings only.	drawn
Database		countries		treatment or	ziprasidone), mood	mutilating		The study served	carefully in
of Systematic		(12 studies)		counselling.	stabilisers (carbamazepine,	behaviour,		The study sample	the light of
Systematic		5 in			valproate semisodium,	affective		sizes were rather	several
Reviews.		Germany and/or			lamotrigine, topiramate),	instability,		small, and	limitations
16(6)		-			antidepressants	feelings of		ranged,	of the RCT
Cormany		Austria, two each in the			(amitriptyline, fluoxetine,	emptiness, anger,		with exception of	evidence that
Germany.		UK and			fluvoxamine, phenelzine sulfate, mianserin), and	psychotic paranoid		two large trials	
					dietary supplementation	•		(Schulz 2007; N= 314; Zanarini	constrain applicabilit
		Spain, and one each in			(omega-3 fatty acid) were	symptoms, dissociative		2007; N of patient	
		Belgium,			tested.	symptoms)		data used here:	y to everyday
		Ireland and			First-generation	Symptoms)		301), between 16	clinical
		the			antipsychotics were subject	Secondary		(Hollander	settings
		Netherlands.			to older trials, whereas	1		,	(among
		There were			recent studies focussed on	outcomes: Depression		2001) and 108 (Soloff 1993;	others,
		two			second-generation	Anxiety		divided into three	patients'
		international			antipsychotics and mood	General		groups).	characterist
		multicentre			stabilisers. Data were	psychiatric		groups).	ics and
		trials. One			sparse for individual	pathology:		Therefore, the	duration of
		took place in			comparisons, indicating	comprehensive		power to detect	interventio

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			13 study centres in the USA, South America, and Eastern Europe.			marginal effects for first- generation antipsychotics and antidepressants. Adverse event data were scarce, except for olanzapine. There was a possible increase in self- harming behaviour, significant weight gain, sedation and changes in haemogram parameters with olanzapine. A significant decrease in body weight was observed with topiramate treatment. All drugs were well tolerated in terms of attrition. Direct drug comparisons comprised two first- generation antipsychotics (loxapine vs. chlorpromazine), first- generation antipsychotic against antidepressant (haloperidol vs. amitriptyline; haloperidol vs. phenelzine sulfate), and second-generation antipsychotic against antidepressant (olanzapine vs. fluoxetine). Data indicated better outcomes for phenelzine sulfate but no significant differences in the other	measures Mental health status Attrition Adverse effects		significant effects was quite low. In addition, the overall robustness of findings must be considered low for the majority of comparisons.	ns and observation periods). QC 1.1 = A 1.2 = A 1.3 = A 1.4 = A 2.1 = (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						olanzapine which showed more weight gain and sedation than fluoxetine. The only trial testing single vs. combined drug treatment (olanzapine vs. olanzapine + fluoxetine; fluxetine vs. fluoxetine + olanzapine) yielded no significant differences in outcomes.				

Service Utilisation

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Determen	RCT	N. 41	Other	Partial	Treatment as	Curaman w MADT had a	Duima a m. u. m. uma la a u	2	Suicide	QC
Bateman, A., &	Level II	N=41	Age and gender not	hospitalisation	usual (TAU)	Summary: MBT had a greater effect than TAU on	Primary: number of suicide	2 yrs		1.1=A
	Leverii	T=22	_	· ·	consists of	-			attempts total,	1.1-A 1.2=B
Fonagy, P. (2008). 8-	RCT (8 yrs	1=22	reported.	consisting of a		clinical symptoms, suicide	attempts over the whole of the 5		d=1.4 (0.3, 1.5)	1.2=B 1.3=B
	, ,	C= 19	Diagnosis	long-term	general	and risk behaviours, service utilisation and			Zanarini Rating	1.3=B 1.4=B
year follow-	since	C= 19	Diagnosis: BPD on both	psychoanalytic	psychiatric		year post-		Scale (ZRS) for BPD:	
up of	interventio			ally orientated	outpatient	general functioning	discharge follow-			1.5=B
patients	n follow-		Structured	treatment for	care with	Detail: 23% made suicide	up period.		total: d=1.8	1.6=A
treated for	up –		Clinical	18 mths.	medication	attempts in the MBT	Associated		(0.14, 3.5),	1.7=A
borderline	reporting		Interview for	Metallization	prescribed by	group (mean attempts	outcomes were		affect: d=1.1	1.8= 0%
personality	occurrence		DSM-III-R	based	the consultant	0.5±0.9), contrasted with	service use,		(0.41, 1.7),	and 18%
disorder:	s since the		and	treatment	psychiatrist,	74% of the TAU group	including		cognitive:	1.9= C
Mentalizati	3 year		Diagnostic	(MBT)	community	(mean attempts	emergency room		d=0.84 (0.3,	1.10=F
on-based	follow-up).		Interview for	individual and	support from	0.52±0.48), which was	visits; the length		1.4), impulsivity:	2.1 = (+)
treatment			Borderline	group	mental health	significant.	and frequency of		d=1.2 (0.59,	
versus			Patients.	therapy.	nurses, and	Mean number of	hospitalization;		1.9),	
treatment				MBT by partial	periods of	emergency room visits and	continuing		interpersonal:	
as usual.			Exclusion: If	hospitalization	partial	hospital days highly	outpatient		d=1.6 (1, 2.3)	
American			they met	consists of 18-	hospital and	significantly favoured the	psychiatric care;		GAF, d=0.75	
Journal of			criteria for	mth individual	inpatient	MBT group, as did the	and use of		(-1.9, 3.4)	
Psychiatry,			schizophreni	and group	treatment as	continuing treatment	medication,		No. of days of	
165(5), 631-			a, bipolar,	psychotherapy	necessary but	profile.	psychological		hospitalisation,	
638.			substance	in a partial	no specialist	During MBT group	therapies, and		d=1.5 (0.36, 2.7)	
			misuse or	hospital	psychotherapy	therapy, all of the	community		No. of	
(follow up			mental	setting		experimental group but	support.		emergency	
from			impairment	offered within		only 31% of the TAU group			room visits,	
Bateman A,			or had	a structured		received therapy.	Secondary:		d=1.4 (0.21,	
Fonagy P			evidence of	and integrated		Over the 5-year	1) symptom		2.63)	
(1999).			organics	program		postdischarge period, both	status as assessed		No. of yrs of	
Effectivenes			brain	provided by a		groups received around 6	at a follow-up		employment,	
s of partial			disorder.	supervised		mths of psychological	interview using		d=0.94 (0.29,	
hospitalizati				team.		therapy (n.s.).	the Zanarini		1.6)	
on in the				Expressive		For all other treatments,	Rating Scale for		No. of yrs	
treatment				therapy using		the TAU group received	DSM-IV		psychiatric	
of				art and writing		significantly more input	borderline		outpatient	
borderline				groups is		postdischarge—3.6 yrs of	personality		treatment, d=	
personality				included.		psychiatric outpatient	disorder		0.93 (-4, 1.5)	

Clinical Question 6 – Service Utilisation

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
disorder: a				Crises are		treatment and 2.7 yrs of	2) global		No. of yrs	
randomized				managed		assertive community	functioning as		further therapy	
controlled				within the		support, compared with 2	measured by the		36 months post-	
trial. Am J				team;		yrs and 5 mths,	Global		intake, d=0.07	
Psychiatry,				medication is		respectively, for the MBT	Assessment of		(-0.23, 0.37)	
156, 1563-				prescribed		group.	Functioning Scale		No. of yrs	
1569)				according to		The TAU group had an	(GAF) at 6-month		further	
				protocol by a		average of over 3 yrs	intervals after 18		assertive	
				psychiatrist		taking antipsychotic	months of MBT		outreach	
				working in the		medication, whereas the	by partial		treatment,	
				therapy		MBT group had less than 2	hospitalization:		d=1.8 (1.4,2.2)	
				program.		mths.	TX profiles		Medication (yrs)	
				The focus of		Smaller but still substantial	(emergency room		antidepressants	
				therapy is on		differences were apparent	visits,		, d= 1.1 (0.45,	
				the patient's		in antidepressant and	hospitalization,		1.7)	
				moment-to-		mood stabilizer use.	psychiatric		Medication (yrs)	
				moment state		The TAU group spent	outpatients,		antipsychotics,	
				of mind. The		nearly 2 yrs taking three or	community		d= 2.04 (1.6,	
				patient and		more psychoactive	support,		2.5)	
				therapist		medications, compared to	psychotherapy,		Medication (yrs)	
				collaboratively		an average of 2 mths for	medication) and		mood	
				try to		the MBT group.	suicidality and		stabilisers,	
				generate		At the end of the follow-	self-harm using		d=1.17 (0.73,	
				alternative		up period, 13% of the MBT	criteria defined in		1.6)	
				perspectives		patients met diagnostic	the original trial		Medication (yrs)	
				to the		criteria for BPD, compared	for each patient		three or more	
				patient's		with 87% of the TAU	by interview and		drugs, d= 1.45	
				subjective		group.	scrutiny of		(1.1, 1.8)	
				experience of		The contrast between	medical records.			
				himself or		mean total scores for the	Collected data			
				herself and		Zanarini Rating Scale for	twice yearly on			
				others by		BPD yielded a large effect	vocational status,			
				moving from		size favouring the MBT	calculating the			
				validating and		group, albeit with a wide	number of 6-			
				supportive		confidence interval.	month periods in			
				interventions		Multivariate analysis of	which the patient			
	1			to exploring		variance across the four	was employed or			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				the therapy relationship itself as it suggests alternative understanding .		symptom clusters also reflected the better outcome for the MBT group (Wilks's lambda =0.55, F=6.4, df=4, 32, p=0.001). The largest differences favouring MBT were in terms of impulsivity and interpersonal functioning. There was over a 6-point difference in the GAF scores between the two groups, yielding a clinically significant moderate effect size of 0.8 (95% CI= -1.9 to 3.4). 46% of MBT group compared to 11% of the TAU group had GAF scores above 60. Vocational status favoured the MBT group, who were employed for nearly three times as long as the TAU group. There was increase in the % of MBT groups employment or education in the three post discharge periods.	attended an educational program for more than 3 months. Patient recall for self-harm was unreliable and could not be independently corroborated from medical records and so is not reported. The authors consider the frequency of emergency room visits to be a reasonable proxy of severe self-harm in this population.			
Bateman, A., & Fonagy, P. (2009). Randomized controlled	RCT Level II	N=134 MBT (T) n= 71 SCM (C) n= 63	Age mean (SD) TX= 31.3 (7.6) C=30.9 (7.9)	MBT is manualized, consisting of 18 months of weekly com- bined	Protocol- driven treatment, SCM, in an outpatient context	Summary: This study suggests that structured, integrated psychological and psychiatric treatment offering coordinated clinical management	Primary outcome: proportion of each group without severe parasuicidal behaviour as	18 months Assessed at entry and over the course of an 18-month	Life-threatening suicide attempts, d = 0.65 (0.58, 0.73) Severe self-harm attempts,	Very good description of factors similar between groups and

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
trial of outpatient mentalizatio n-based treatment versus structured clinical managemen t for borderline personality disorder. American Journal of Psychiatry, 166(12), 1355-1364. UK		MBT = mentaliz ation-based treatmen t SCM = structure d clinical manage ment	Female (n, %) TX= 57, 80.3% C= 50, 79.4% Diagnosis - All participants were assessed using the Structured Clinical Interview for DSM-IV (SCID-I and SCID-II). Ethnicity - White British/Euro pean MBT: 76.1%, SCM: 68.3%; Black African/Afro -Caribbean MBT: 15.5%, 20.6% Other Chinese/Tur kish Pakistani 8.5%, 11.1%	individual and group psychotherapy provided by two different therapists. MBT is a psychodynami c treatment rooted in attachment and cognitive theory. It requires limited training with moderate levels of supervision for implementation by generic mental health professionals. It aims to strengthen patients' capacity to understand their own and others' mental states in attachment contexts in order to	representing best current clinical practice. Practitioners received equivalent supervision. Crisis plans were developed collaboratively within each treatment team for all patients. SCM therapists focused on support and problem solving.	recommended by NICE significantly benefits patients with BPD. Both conditions were associated with substantially reduced suicidality, self-harm, and hospitalization and improvement on measures of symptoms and social and interpersonal functioning by the end of treatment. The rate of improvement in both groups was higher than spontaneous remission of symptoms of BPD. Although patients in both groups made statistically significant improvements, MBT was associated with greater improvements than SCM for most outcomes. Detail: Suicidal behaviour: 6 mth periods free of suicidal behaviours, severe selfinjurious behaviours, and hospitalization improved from 0% to 43% in the SCM group and to 73% in the MBT group; behaviour increased in patients	indicated by 1) suicide attempt, 2) life-threatening self-harm, or 3) hospital admission. Hospital admission was included because patients are primarily offered inpatient care in anticipation of suicide attempts and severe self-harm Secondary outcome: were independently rated Global Assessment of Functioning (GAF) scores at the beginning and end of treatment and self-reported psychiatric symptoms, social and interpersonal functioning, and medication use assessed at baseline and at 6-month intervals	treatment at 6, 12, and 18 months.	d = 0.62 (0.28, 0.97) Interpersonal distress, d = 0.95 (0.59, 1.3) Social adjustment problems, d = 0.72 (0.37, 1.06) Symptom distress, d = 0.67 (0.33, 1.02) Depression, d=0.45 (0.1, 0.79) Hospital admissions, suicidal and self-injurious episodes, d = -0.72 (-1.07, -0.37) Length of hospitalisation , d = -0.43, (-0.78, -0.09) Medication use, d= -0.58, (-0.93, -0.24) Psychiatric hospitalisation, d= -0.53, (-0.88, -0.19)	randomisat ion procedures
1			Exclusion Inclusion	address their difficulties		assigned to MBT more than for patients in the	until the end of treatment at 18			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			criteria were 1) diagnosis of BPD, 2) suicide attempt or episode of life- threatening self-harm within last 6 months, and 3) age 18– 65. Exclusion criteria were kept to a minimum. Patients were excluded if they currently 1) were in long-term psychothera peutic treatment, 2) met DSM- IV criteria for psychotic disorder or bipolar I disorder, 3) had opiate dependence	with affect, impulse regulation, and interpersonal functioning, which act as triggers for acts of suicide and self-harm. Crisis plans were developed collaboratively within each treatment team for all patients. MBT therapists focused on helping patients reinstate mentalising during a crisis via telephone contact. SCM therapists focused on support and problem solving		SCM group, however, differences only became statistically significant after 12 mths of treatment. Number of episodes of hospital admissions, suicide attempts, and severe self-injuries) also declined in both groups but a substantially greater reduction in the MBT than the SCM group. Data were relatively consistent and showed reduced suicidal behaviour in both groups. The rate of improvement was significantly greater in the MBT group both in terms of any suicide attempt and the count data associated with it. Differences between groups only became marked in the last 6 mths of treatment; at 12 mths, groups were not significantly different. Self-harm: Frequency of self-harm behaviours had significantly steeper reduction in the MBT	months. Patients' subjective experience of symptoms was measured using the SCL-90-R, and depression was assessed by using the Beck Depression Inventory. Social adjustment and interpersonal functioning were measured using the modified Social Adjustment Scale—self-report and the Inventory of Interpersonal Problems—circumflex version.			
			requiring specialist treatment,			group compared with SCM.				

or 4) had mental impairment or evidence of organic brain patients in the MBT group severely self-harmed (24% vs. 43%, c2=4.6, p<0.05; brain disorder. Current However, during the first 6 mths of tx, comparison of the proportion of treatment, temporary residence, drug/alcohol misuse, and comorbid personality disorder were not exclusion criteria. Large year of the MBT group who self-harmed showed a steeper decline when compared with the SCM group who self-harmed showed a steeper decline when compared with the SCM group and the MBT group who self-harmed showed a steeper decline when compared with the SCM group. The more consistent reduction in the counts of self-injurious behaviour and the difference in incidence rate ratios favouring MBT was highly statistically significant. Hospitalisation: Before treatment about 25% of each group had	Country I	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
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Before treatment about 25% of each group had											
25% of each group had							- I				
had at least one hospital											
admission. During the first											
6 mths of treatment patients in the MBT group											

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						had significantly fewer				
						days in hospital (Kruskal-				
						Wallis c2 = 4.25, p<0.04),				
						and the difference				
						increased by 12 mths (Kruskal-Wallis c2 = 6.54,				
						p<0.02) and 18 months				
						(Kruskal-Wallis c2 = 9.01 ,				
						p<0.003).				
						The decline in number of				
						admissions over the whole				
						period of treatment was				
						significantly steeper in the				
						MBT group.				
						The number of patients				
						hospitalized reduced in				
						the MBT group relative to				
						the SCM group and was				
						markedly lower in the MBT group in the last 6				
						months of treatment (c2				
						=7.7, p<0.005; relative risk				
						= 0.14, 95% CI = 0.3–0.64).				
						Secondary outcomes: GAF				
						increased substantially for				
						both groups over the 18-				
						month period from 41				
						(95% CI = 39.7–42.7) to 57				
						(95% CI = 54.9–60.0) (t =				
						15.5, df = 125, p<0.0001)				
						but the increase was rated				
						as greater in the MBT				
						group. There was				
						improvement on all self-				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						rated measures for both				
						groups. This was				
						particularly notable for				
						symptoms of depression				
						and social adjustment. The slope of decline in self-				
						I **				
						reported symptoms and				
						relationship and social				
						adjustment problems was significantly greater in the				
						MBT group across all four				
						measures.				
						The size of difference				
						between the two groups				
						at the end of treatment				
						was substantial for				
						reduction in interpersonal				
						distress (d = 0.95, 95% CI =				
						0.59–1.3), moderate for				
						social adjustment				
						problems (d = 0.72, 95% CI				
						= 0.37–1.06) and symptom				
						distress (d = 0.67, 95% CI =				
						0.33-1.02), and more				
						modest for depression (d =				
						0.45, 95% CI =0.10-0.79).				
						Medication: use of med-				
						ication reduced				
						significantly in both				
						groups. The proportion of				
						patients not receiving				
						medication increased from				
						27% to 57%. The increase				
						was greater for the MBT				
						group. Counting the				
						number of classes of				
						psychotropic medication				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						also showed a decline across both groups with the incidence rate ratio suggesting a significant difference in favour of the MBT group. The number of people receiving two or more different classes of medication substantially reduced in both groups from 30% at the beginning				
						of treatment to 8% at the end of treatment.				
Bos, E.H., Van Wel, E.B., Appelo, M.T., & Verbraak, M.J. (2010).	RCT Level II Randomiza tion was done separately	N=79 TX (n = 42) C (n = 37)	Between 8 and 12 subjects were included in each group for the	Systems Training for Emotional Predictability and Problem Solving (STEPPS) +	Treatment as usual (TAU) The STEPPS groups began simultaneousl y with a group	Summary: Moderate to large effect sizes were seen for symptom variables and psychological quality of life at T2. At T3, moderate effects on symptoms were	Primary efficacy measures included general psychiatric and BPD-specific symptoms, measured with	Pre- treatment assessments (T1) took place following randomizati	Effect sizes (non-standardised): Primary outcomes: Estimated mean	Raters were not blind and interrater reliability was not assessed
A randomized controlled trial of a Dutch version of	at each location.		Treatment group. If at the time of randomisati on, an insufficient	individual treatment group treatment; it combines skills training	of patients that started TAU. The control condition was TAU, i.e., the	still present, while also moderate effects on physical, social and overall quality of life could be observed. More than TAU, STEPPS	the Symptom Checklist-90 total score (SCL-90) and the Borderline Personality	on, just before the start of the intervention. Post- treatment	differences at the end of treatment (T2), adjusted for differences at T1, were: SCL-	for the BPDSI-IV. Intention to treat analysis was
systems training for emotional predictabilit y and problem			number of participants were assigned to a group, the remaining	with general CBT elements and has a strong systems component;	standard treatment for BPD offered at the participating sites. This	plus limited adjunctive individual therapy reduced symptomatology and improved quality of life, also in the longer run. STEPPS was not superior	Disorder checklist-40 total score (BPD-40) respectively.	assessments (T2) were done after the final weekly session of	90, -47.0 (95% CI, -78.2 to - 15.9, p = 0.003); BPD-40, -18.7 (95% CI, -31.6 to -5.8, p=0.005).	completed but yielded similar results to the per- protocol
solving for borderline personality disorder.			spots were randomly assigned to subjects	family members and significant others are	treatment consisted of individual therapy from	to TAU in reducing impulsive and parasuicidal behaviours, but this may be explained by the low	outcome measures included impulsive and	the STEPPS program (mean 23.9 ±3.6 weeks	At 6-month follow-up (T3), the differences were smaller	analysis so only the per- protocol

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Journal of			who did not	actively	а	base rate of these	parasuicidal	after T1).	but still	analysis
Nervous			meet full	involved in the	psychotherapi	behaviours in our sample.	behaviour, and	Follow- up	significant: SCL-	was
and Mental			BPD criteria	program.	st,	It may also be that a more	quality of life.	assessments	90, -38.4 (95%	presented.
Disease,			(these		psychologist,	intensive treatment, such	Impulsive and	(T3) took	CI, -67.1 to -9.6,	The
198(4), 299-			participants	The Dutch	or psychiatric	as DBT, is required to find	parasuicidal	place	p =0.009); BPD-	comparabili
304.			were not	version of the	nurse, offered	differential effects on	behaviour were	approximate	40, -14.7 (95%	ty of
			included in	STEPPS group	every 1 to 4	these behaviours. The	assessed using 2	ly 6 months	CI, -26.6 to	treatment
The			this	program	weeks.	merit of the STEPPS	subscales of the	after T2	-2.8, p=0.016).	between
Netherlands			analysis).	involves 18	STEPPS-	program is that it is	Borderline	(mean 25.7		sites and
				weekly	related	relatively easily learned	Personality	±4.2 weeks	Secondary	the
			Age mean	sessions and a	treatments	and implemented, and	Disorder Severity	after T2).	outcomes:	comparabili
			(SD)	single follow-	like DBT or	nevertheless improves	Index-IV (BPDSI-	Outcome	In the domain	ty between
			Treatment	up session 3	family groups	BPD treatment in a	IV). The	measures	of Psychological	different
			32.9 (5.6)	to 6 months	for family	number of ways. Further	impulsivity	were	Health, STEPPS	therapists
			Control 31.8	after the	members of	research to compare this	subscale contains	assessed on	scores were	was not
			(9.2)	conclusion of	the patients	treatment with other	11 items	all 3	higher than TAU	assessed.
				the program.	were not	effective treatments is	reflecting	occasions	scores	
			Gender –	The program	allowed.	warranted. Importantly,	potentially		particularly at	QC
			female (n,	has 3 main	In both	this RCT on STEPPS is the	harmful impulsive		T2 (estimated	1.1=A
			%)	components:	conditions,	first done by others than	behaviours (e.g.,		mean difference	1.2=A
			Treatment	(1)	the main	its developers.	gambling,		adjusted for T1	1.3=B
			35, 83.3%	psychoeducati	treatment	Detail: Scores on the	reckless driving,		score: 2.08 [95%	1.4=F
			Control 33,	on about BPD;	could be	primary efficacy measures.	binge eating). The		CI, 0.76 –3.41, p	1.5=A
			89.2%	(2) emotion	supplemented	SCL-90 and BPD-40	parasuicide		=0.002]); at T3,	1.6=A
				management	with	symptom scores generally	subscale contains		this difference	1.7=B
			Diagnosis	skills training;	(medication)	decreased from T1 to T3,	13 items		was reduced to	1.8=28.9%
			BPD	and (3)	contacts with	and more so in the STEPPS	reflecting self-		0.91 (95% CI,	(TX) and
			confirmed	behaviour	a psychiatrist,	group than in the TAU	mutilating		-0.32 – 2.15, p	13.2% (C)
			by	management	social worker,	group.	Parasuicidal		=0.146). With	1.9= 3
			administerin	skills training.	or other	Quality of life scores	behaviours and		respect to	1.10=4
			g the BPD	STEPPS is	health care	(WHOQOL-Bref) generally	suicidal thoughts		Overall Quality	2.1 = (+)
			modules	system-based	professional.	increased from T1 to T3.	and attempts.		of Life and	
			from the	in that friends		Overall treatment effects	Quality of life was		General Health,	
			Dutch	and relatives		were found for Overall	measured with		Physical Health	
			versions of	of the patients		Quality of Life and General	the World Health		and Social	
			the	are explicitly		Health, Physical Health,	Organization		Relationships,	
			Personality	involved in the		and Psychological Health.	Quality of Life		STEPPS scores	

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			Diagnostic	program for		For Social Relationships	Assessment-Bref		were	
			Questionnair	support and		the overall treatment	(WHOQOL-Bref)		significantly	
			e and the	reinforcement		effect was a trend, for			higher than TAU	
			Structured	of the newly		Environment the overall			scores only at	
			Clinical	learned skills		treatment effect was not			T3 (estimated	
			Interview for	(the "support		significant.			differences 1.80	
			DSM-IV Axis	group"). They		In both conditions, the			[95% CI, 0.30 -	
			II Disorders.	receive		number of patients scoring			3.30, p =0.019];	
			Participants	education		above the cut-off for			1.41 [95% CI,	
			had to be	about BPD		ratings for the parasuicide			0.15-2.66, p	
			above	and are		and impulsivity subscales			=0.028]; and	
			threshold on	instructed		of the BPDSI-IV decreased			1.86 [95% CI,	
			either	how to		from T1 to T3. There were			0.14 –3.57, p	
			impulsivity	interact with		no significant differences			=0.035],	
			and/or	the person		between the conditions			respectively),	
			parasuicide	with the		(overall treatment			but not at T2	
			subscales of	disorder.		effects).			(estimated	
			the BPD	STEPPS is		Medication was similar			differences 1.58	
			Severity	administered		between the groups at			[95% CI,	
			Index-IV	by 2 mental		baseline and remained			-0.07 – 3.22, p	
				health		stable during follow-up			=0.060]; 0.96	
			Exclusion	professionals,		assessment.			[95% CI, -0.40 –	
			Subjects	of who at		Over the entire study			2.32, p = 0.164];	
			were	least one is a		period, patients in the			and 0.77 [95%	
			excluded if	psychotherapi		STEPPS group received 15			CI, -1.08 -2.61,	
			they did not	st.		STEPPS group sessions on			p =0.431,	
			speak Dutch;	Subjects		average, and had a mean			respectively).	
			were	assigned to		of 8 contacts with their			Odds ratios for	
			cognitively	STEPPS also		individual therapist. TAU-			impulsivity were	
			impaired (IQ	received		patients had a mean of 9			(T2): 0.81 (95%	
			< 70);	limited		individual contacts with			CI, 0.26 –2.53, p	
			younger	individual		their main therapist. In			= 0.716); and	
			than 18 yrs;	therapy. This		addition to these study			(T3): 0.68 (95%	
			treated	therapy was		treatment contacts, TAU-			CI, 0.22–2.09, p	
			involuntary;	developed as		patients reported to have			=0.501). Odds	
			or presented	an adjunct to		had 31 ambulatory			ratios for	
			an imminent	STEPPS to		therapy contacts on			parasuicide	

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			danger to themselves or others.	help consolidate the newly acquired skills and to stimulate their use. It had a structured format, in which the previous STEPPS session was discussed as well as the use of the learned skills in everyday life. The therapy was offered every 2 weeks during the entire study period.		average with other mental health care workers (e.g., psychiatrists, psychologists, psychiatric nurses, social workers). Patients in the STEPPS condition had a mean of 21 additional ambulatory therapy contacts.			were (T2): 2.05 (95% CI, 0.66– 6.35, p = 0.211); and (T3): 1.02 (95% CI, 0.35– 2.97, p =0.974). Effect sizes (standardised): Effect sizes for the differences between the treatments at T2: SCL-90, 0.68; BPD-40, 0.68; Psychological Health, 0.96. At T3 effect sizes were: SCL- 90, 0.56; BPD- 40, 0.53; Overall Quality of life & General Health, 0.61; Physical Health, 0.56; Social Relationships, 0.61.	
Carter, G.L., Willcox, C.H., Lewin,	RCT Level II	N=60 Treatme	Age mean (SD): Treatment	Modified DBT: team-based approach	WL + TAU The control condition was	Summary: The study found no statistically significant differences between	The primary outcomes (differences in	3 and 6 month follow-up	BDQ days in bed, d=-0.66 (-1.25,-0.07).	Very clear on methods of
T.J., Conrad, A.M., & Bendit, N. (2010). Hunter DBT	The purpose of the present study was	nt n= 27 Control n= 33	24.5 ± 6.12; Control 24.7 ± 6.15 Gender: all	including individual therapy, group-based skills training,	a 6-month WL for DBT while receiving TAU (TAU+WL). Subjects, both	modified DBT and waitlist control/TAU except for some quality of life measures. There were trends towards modified	proportions and event rates) of any deliberate self-harm (DSH) event; general		BDQ days out of role, d= -0.43 (-1.01, 0.15) Days in hospital, d= -0.16 (-0.62,	randomisat ion and concealme nt (sealed envelopes).

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
project: Randomized controlled trial of dialectical behaviour therapy in women with borderline personality disorder. The Australian and New Zealand journal of psychiatry, (2), 162- 173.	to compare dialectical behaviour therapy (DBT) and the control condition of treatment as usual plus weight list (WL) for DBT (TAU+WL).		female Diagnosis: BPD via clinical interview by a psychiatrist using DSM- IV criteria. To be in the study, needed a history of multiple episodes of deliberate self-harm, at least three self- reported episodes in the preceding 12 months. Exclusion criteria were presence of a disabling organic condition, schizophreni a, bipolar	telephone access to an individual therapist and therapist supervision groups following the model of treatment developed by Linehan et al. The main change to the Linehan et al. model was the telephone access to individual therapists. In the present study telephone access was delivered using a group roster of DBT individual therapists (not contact with each participant's individual therapist) between 8:30	in the initial DBT group and in the TAU+WL group who came to DBT after 6 months were offered 12 months DBT treatment, although the comparison between groups was restricted to the first 6 months of DBT versus TAU+WL.	DBT in reductions in hospitalisations, shorter lengths of stay, days in bed. Authors state: There are several possible explanations given to as to why DBT was not effective in this study: regression to background (pre-baseline) levels, the Hawthorne effect whereby both groups improved because of the effect of being in a study, the potentially powerful effect of being in a 6 month TAU+WL group for DBT for the control condition, beneficial effects of the TAU condition available in the Hunter region, modifications to standard DBT, the possible inferiority of training of DBT therapists to that of those in other studies or inferior adherence to the DBT methods despite adequate training, and methodological differences. Detail: The present study found reductions in psychiatric hospitalization	hospital admission for DSH and psychiatric admission for any reason; and mean difference in length of stay for any hospitalization. Secondary outcomes were disability and quality of life measures. Specific measures: Composite International Diagnostic Interview modules: anxiety, depression, bipolar disorders, alcohol abuse and dependence, substance abuse and dependence. International Personality Disorder Examination Questionnaire. Brief Disability Questionnaire		0.30). No. hospital admissions, d= -0.22 (-0.68, 0.24). No. hospital presentations without admission, d= 0.03 (-0.43, 0.49) No. self-harm episodes in previous 3 months, d= -0.18 (-0.64, 0.28) WHOQOL-BREF Environmental domain, d= 0.43 (-0.14, 0.99) WHOQOL-BREF Physical domain, d= 0.69 (0.11, 1.27) WHOQOL-BREF Psychological domain, d= 0.65 (0.07, 1.23) WHOQOL-BREF Social domain, d= -0.04 (-0.60, 0.53)	Randomization occurred after baseline assessment. Hospitalisation data was intention to treat but rest was perprotocol. Large discrepancy in drop outs between groups. QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=B 1.7=A 1.8=47.4% (TX) and 11.4(C) 1.9= B 1.10=
			affective disorder,	a.m. and 10 p.m., and		for both DBT and WL+TAU over time but no	Lifetime Parasuicidal			2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			psychotic	telephone		significant benefit in	Count-2			
			depression,	contact with		favour of DBT for the	Parasuicidal			
			florid	the local		binary outcome, the mean	History Interview-			
			antisocial	psychiatric		event rate or the mean	3 month period			
			behaviour,	hospital		length of stay for those	WHO Quality of			
			or	between 10		with an admission at the	Life-BREF version			
			developmen	p.m. and 8:30		end-point of the trial.				
			tal disability.	a.m.		There were no significant				
				Treatment		differences in proportions				
				subjects were		for general hospital				
				also assigned		admission for DSH or for				
				to the		any psychiatric admission.				
				relevant skills		The length of stay overall,				
				training		or the length of stay for				
				group,		those with either type of				
				meeting		admission was not				
				weekly with		significantly different,				
				the modules		although the DBT group				
				running in the		tended to have shorter				
				following		lengths of stay.				
				order:		For the per-protocol				
				Interpersonal		analyses, there were no				
				Effectiveness,		significant differences for				
				Emotion		the proportion of patients				
				Regulation		with any DSH episode in 6				
				and Distress		months, or for the number				
				Tolerance.		of self-harm episodes for				
				Each module		the baseline–3 months				
				ran for 8		and 3–6 months periods.				
				weeks. Groups		There was a significant				
				had a		benefit in favour of DBT				
				minimum of 4		for days spent in bed but				
				members		no significant effect for				
				before		days out of role. There				
				commenceme		was a significant beneficial				
				nt and a		effect in favour of DBT, for				
				maximum of 8		three of the four domains				

Country Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			members. Entry to the skills group occurred only at the commenceme nt of the next skills module.		of quality of life: Physical, Psychological and Environmental.				
Cottraux, J., Note, I.D., Boutitie, F., Milliery, M., Genouihlac, V., Yao, S.N., Note, B., Mollard, E., Bonasse, F., Gaillard, S., Djamoussia n, D., De Mey Guillard, C., Culem, A. & Gueyffier, F. 2009. Cognitive Therapy versus Rogerian Supportive Therapy in Borderline Personality Disorder. Psychothera	n=33 (CT) n=32 (RST) Eighty- eight patients were screened : 13 did not meet the inclusion criteria, 10 refused to enter the study and 65 were randomis ed, 51 followed up post treatmen t.	CT Male n=9 Female n=24 Mean age 34.3 SD 10.2 RST Male n=6 Female n=26 Mean age 32.6 SD 8.3 Diagnosis using MINI and confirmed by the Interview for Borderline Personality Disorder- Revised (DIBR), with a score of at least 8, according to the threshold of	Cognitive therapy 10 sessions of individual 1-hour sessions, over 1 year.	Rogerian supportive therapy (RST) 10 sessions of individual 1-hour sessions, over 1 year.	Summary: CT retained the patients in therapy for longer than RST. At week 24, CT was better than RST on the Hopelessness Scale, IVE scale and regarding the therapeutic relationship. At week 104, the CGI improvement (patient and evaluator) was significantly better in CT than in RST. High baseline depression and impulsivity predicted dropouts. High baseline depression and impulsivity predicted dropouts. Detail: A between-group comparison of the time spent in therapy showed that dropouts left the study later in CT (CT: mean = 51 days, SD = 37.4; RST: mean = 29 days, SD = 32.4; Wilcoxon-Mann-Whitney = -2.05; p = 0.040).	Clinical Global Impression (CGI) Scale Hamilton Depression Scale Beck Depression Inventory Beck Anxiety Inventory Hopelessness Scale Young Schema Questionnaire II Eysenck Impulsivity Venturesomeness Empathy (IVE) Inventory	51 patients were evaluated at week 24, 38 at week 52 and 21 at week 104. 21.5% drop out 6 mths of intensive care with 1 session per week (24 sessions) and a maintenanc e phase with a session every fortnight over 6 mths (12 sessions).	Not Reported	Same therapists in both groups QC 1.1 = A 1.2 = B 1.3 = B 1.4 = B 1.5 = A 1.6 = A 1.7 = A 1.8 = 21.5% 1.9 = B 1.10 C 2.1 (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Psychosoma tics, 78, 307-316. France			Exclusion criteria were: age under 18 or over 60 years, patients living too far from the centres, psychotic disorders with current delusions, significant drug or alcohol addiction in the foreground or antisocial behaviours.			average time before ending therapy was 82 days in CT vs. 60 in RST (Wilcoxon-Mann- Whitney = -1.5; p = 0.13) Using all available information on the response criterion, the odds of success were estimated to be 61% higher in the CT group than in the RST group, a large but non-significant effect (OR: 1.61, 95% CI: 0.62–4.16, p = 0.32). When missing outcomes were considered as failures, the estimated treatment effect was reduced to an OR of 1.33 (95% CI: 0.60–2.96, p =0.48). Change from baseline was significant for the IVE scale: CT mean = 0.85 (SD 1.74); RST mean = -0.67 (SD 2.87); Wilcoxon-Mann-Whitney: -2.086, p = 0.03. The Hopelessness Scale				
						also changed more in CT: mean -3.31 (SD 4.64); RST mean = -0.50 (SD 3.73); Wilcoxon-Mann- Whitney:				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Decident	DCT	N. 405		204.h.		-2.27, p = 0.02 The therapeutic relationship was also better in CT: the therapists rated the patients more favourably in CT than in RST (p = 0.04).	Churchand			No.
Davidson, K.M., Tyrer, P., Norrie, J., Palmer, S.J., & Tyrer, H. (2010). Cognitive therapy v. Usual treatment for borderline personality disorder: Prospective 6-year follow-up. British Journal of Psychiatry, 197(6), 456- 462. UK	RCT Level II	N= 106 n= 76 T=43 C= 33	Age mean (SD) T= 32.4 ± 9.0 C= 31.4 ± 9.4 Gender — Female (n, %) T= (45, 83.3%) C= (44, 84.6%) Diagnosis: BPD, met criteria for at least 5 items of BPD using the Structured Clinical Interview for DSM IV Axis II Personality Disorders.	30 x 1 hr sessions of individual cognitive— behavioural therapy for personality disorders (CBT—PD) over 1 year in addition to their usual treatment	TAU	Summary: The original positive treatment effect is maintained over an average of 6 yrs follow-up: a difference of 1.26 suicide attempts over the following 5 yrs. Detail: Over the 6-year period, 73% (n = 24/33) in the TAU group had made at least one suicide attempt compared with 56% (n = 24/43) in the CBT–PD group (adjusted odds ratio 0.37, 95% Cl 0.10–1.38, P= 0.13). In terms of self-harm (nonsuicidal) there was little evidence of a difference between the groups. However, it was clear that the overall rate of self-harm declined in both groups. For measures of depression, anxiety, general psychopathology,	Structured Clinical Interview for DSM–IV Axis II Personality Disorders. Acts of Deliberate Self-Harm Inventory. Beck Depression Inventory (BDI). Spielberger State—Trait Anxiety Inventory (STAI). Brief Symptom Inventory (BSI). Participant's beliefs thought to be related to personality disorder were measured using	6 year follow-up Of the people who originally took part n = 76/106 (72%) were interviewed at 6 year follow-up.	BDI, d=0.02 (-0.44, 0.47) BSI, d= 0.07 (-0.39, 0.52) EQ-5D thermometer, d= -0.11 (-0.57, 0.34) EQ-5D weighted HSV, d= -0.24 (-0.69, 0.22) IIP-32, d=0.18 (-0.27, 0.64) SFQ, d=-0.18 (-0.63, 0.27) State-Anxiety, d=-0.19 (-0.64, 0.27) Suicide attempts, d = -0.32 (-0.77, 0.14) Trait-Anxiety, d= -0.10 (-0.56, 0.35) Youth Schema Questionnaire,	No information on comorbidit y and prescribed drug use was obtained across the trial and follow-up, and no formal assessment of interrater agreement was carried out on SCID–II diagnosis. Randomizat ion was stratified by high (presence
			Inclusion: to enter the study,			general psychopathology, social functioning, quality of life and dysfunctional	measured using the Young Schema		Questionnaire, d=-0.07 (-0.52, 0.39)	(presence of suicidal acts in past

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other participants			attitudes, there were no	Questionnaire			12 months)
			had received			statistically significant	(YSQ).			or low
			either in-			differences between the	(130).			(presence
			patient			groups during follow-up.	Social Functioning			of self
			psychiatric			At 6 yrs, 54% of the	Questionnaire			mutilation
			services or			sample no longer met	(SFQ).			only in past
			an			diagnostic criteria for BPD:	(31 Q).			12 months)
			assessment			56% (n = 24/43) of the	Inventory of			episodes of
			at accident			CBT-PD group and 52% (n	Interpersonal			self-harm,
			and			= 17/33) of the TAU group.	Problems – Short			using
			emergency			There was no difference	form 32 (IIP-32).			randomized
			services or			between the groups in	,			permuted
			an episode			terms of those who	Cost effectiveness			blocks of
			of deliberate			continued to meet	via quality-			size 4.
			self-harm			diagnostic criteria (P =	adjusted life-year			It was
			(either			0.44).	(QALY), assessed			completed
			suicidal act			Defined poor outcome as	using the EuroQol			confidential
			or self-			any suicide attempt in the	(EQ-5D), and the			ly at a
			mutilation)			follow-up period and	Client Service			separate
			in the			examined the baseline	Receipt Inventory			centre.
			previous 12			predictors of good and	(CSRI) for the 6			Therapy
			months.			poor outcome.	months before			adherence
						From all the variables	follow-up			measures
			Exclusion:			known to be of prognostic	interview.			were
			those who			importance pre-				completed.
			had			randomisation, only				
			evidence of			having special needs at				QC
			an organic			school was specifically				1.1=A
			illness,			associated with the				1.2=A
			mental			presence of any suicide				1.3=A
			impairment,			attempts during the 6-year				1.4=F
			alcohol or			follow-up.				1.5=A
			drug			Overall quality of life				1.6=A
			dependence,			scores for the entire group				1.7=A
			schizophreni			remained poor and				1.8= 20%
			a or bipolar			continued to lie within a				(TX) and
			affective			similar range to values				36% (C)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			disorder. Did not exclude those who were abusing drugs or alcohol providing they did not meet criteria for dependence			reported for other severe mental health populations such as severe schizophrenia. Use of hospital services remained high in both groups with about 54% of all individuals having received in-patient treatment and almost two-thirds having utilised accident and emergency (A&E) treatment during the follow-up period. With the exception of in-patient and A&E utilisation, no particularly large differences were observed between the treatment groups. However, the mean length of hospitalisation was markedly lower in the CBT-PD group than for the TAU group (10.81 v. 60.97 days respectively). Although a similar proportion of patients in both groups attended A&E, both the mean and				1.9= A 1.10=A 2.1 = (++)
	DOT.			-		median number of attendances were higher in the TAU group.				
Doering, S., Horz, S., Rentrop, M., Fischer-	RCT Level II	Treatme nt n=52 Control n= 52	Age mean (SD): Treatment 27.46 ±6.8;	Transference- focused psychotherapy : Two 50-		Summary: Transference focused psychotherapy group had fewer DSM features at 1 year, fewer	Primary: Drop-outs Suicide attempts and self-harming	Follow-up: 1 year	Any suicide attempts during psychotherapy, d = -0.08	High, differential drop out

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Kern, M.,			Control	minute		self harm and suicide	behaviour:		(-0.47, 0.30)	QC
Schuster, P.,			27.19 ± 7.5	sessions are		attempts, lower duration	Cornell Interview		BDI, d=0.12	1.1=A
Benecke, C.,				delivered per		and less time as an	for Suicidal and		(-0.26, 0.51)	1.2=A
Buchheim,			Gender – all	week. Before		inpatient and better	Self-Harming		Brief symptom	1.3=A
A., Martius,			females	treatment		psychosocial functioning	Behaviour- Self		inventory,	1.4=F
P.,				starts, a		than control group.	Report (CISSB),		d=0.08 (-0.31,	1.5=A
Buchheim,			Diagnosis:	treatment		The drop-out rate was	adapted from the		0.46)	1.6=C
P. (2010).			DSM-IV BPD	contract is		significantly higher in the	Parasuicidal		GAF, d=0.34	1.7=A
Transferenc			via	negotiated		experienced community	History Interview		(-0.04, 0.73)	1.8=
e-focused			Structured	orally with the		psychotherapists group			Level of	Treatment
psychothera			Clinical	individual,		Detail: There were no	Secondary:		personality	17% not
py v.			Interview for	covering		significant differences	DSM-IV		organisation, d=	assessed at
Treatment			DSM and	general		between the groups with	diagnostic criteria		-0.26 (-0.65,	follow-up;
by			Structured	aspects like		regard to medication at	for BPD via SCID		0.12)	Control
community			Interview for	duration and		baseline and during the 1-	GAF		No. of days in	44% not
psychothera			Personality	payment as		year treatment period.	Beck Depression		psychiatric	assessed at
pists for			Organisation	well as		The transference-focused	Inventory		inpatient during	follow-up
borderline			_	potential		psychotherapy group	State-Trait		psychotherapy,	1.9= A
personality			Exclusion:	threats to the		showed a significantly	Anxiety Inventory		d= -0.23 (-0.61,	1.10=C
disorder:			Exclusion	treatment		higher proportion of	Brief Symptom		0.16)	2.1 = (-)
Randomised			criteria were	specific to		participants that fulfilled	Inventory		No. of DSM-IV	
controlled			diagnosis of	each patient		less than five DSM-IV	Psychiatric		diagnostic	
trial. British			antisocial	(e.g. suicide		diagnostic borderline	inpatient		criteria for BPD,	
Journal of			personality	attempts,		criteria after 1 year and	admissions -		d=-0.56 (-0.95,	
Psychiatry,			disorder,	drug misuse		were not diagnosed BPD	Cornell Revised		-0.17)	
196(5), 389-			schizophreni	or anorectic		any more (42.3% v. 15.4%,	Treatment		No. of	
395.			a, bipolar I	behaviour).		P= 0.002).	History Inventory		psychiatric	
			and II	The treatment		The transference-focused	(CRTHI)		inpatient	
Germany			disorder	focuses on the		psychotherapy group was	Personality		admissions	
			with a major	integration of		significantly superior with	organisation:		during	
			depressive,	internalised		regard to the number of	STIPO		psychotherapy,	
			manic or	experiences of		DSM-IV diagnostic			d= -0.47 (-0.86,	
			hypomanic	dysfunctional		criteria, psychosocial			-0.08)	
			episode	early		functioning, personality			Self-harming	
			during the	relationships.		organisation, suicide			during	
			previous 6	For this		attempts and number and			psychotherapy,	
			months,	purpose, the		duration of psychiatric in-			d= -0.12 (-0.50,	

substance dependency relationship between the alcohol during the previous 6 months, organic pathology or mental retardation. To rule out a mere dose effect of transference- individual and during the previous 6 months, organic pathology or mental retardation. Additional psychotherapy not allowed psychotherapy not allowed psychotherapy not allowed psychotherapy and attempted suicide dropped out were not included in the complete analysis. The results demonstrate the significant superiority of transference forced psychotherapy with regard to the primary outcome criteria of drop-out rate and slucide attempts during the treatment surgice psychotherapy with regard to the primary outcome criteria of drop-out rate and slucide attempts during the treatment surgice psychotherapy with regard to the primary outcome criteria of drop-out rate and slucide attempts during the treatment psychotherapy with regard to the primary outcome criteria of drop-out rate and slucide attempts during the treatment psychotherapy with regard to the primary outcome criteria of drop-out rate and slucide attempts during the treatment psychotherapy with regard to the primary outcome criteria of drop-out rate and slucide attempts	Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
The same was true for the secondary outcome criteria reduction of DSM— IV diagnostic borderline criteria, psychosocial functioning, level of personality organisation				dependency (including alcohol) during the previous 6 months, organic pathology or mental	relationship between the individual and the therapist ('transference relationship') is examined as much as possible. Additional psychotherapy		To rule out a mere dose effect of transference-focused psychotherapy, completer analyses were conducted, controlling for the number of therapy sessions delivered. The group differences remained significant for GAF Score, number of DSM–IV borderline criteria, and level of personality organisation. In both groups all but one of the individuals who attempted suicide dropped out of treatment. Those who dropped out were not included in the completer analysis. The results demonstrate the significant superiority of transference-focused psychotherapy with regard to the primary outcome criteria of drop-out rate and suicide attempts during the treatment year. The same was true for the secondary outcome criteria reduction of DSM–IV diagnostic borderline criteria, psychosocial functioning, level of			State-Trait Anxiety X1, d= 0.18 (-0.20, 0.57) State-Trait Anxiety X2, d = 0.04 (-0.35,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						admissions.				
						Participants in the				
						transference-focused				
						psychotherapy group				
						received 48.5 (s.d. = 34.2)				
						sessions and those in the				
						experienced community				
						psychotherapists group				
						18.6 (s.d. = 24.0) sessions of individual				
						psychotherapy within the				
						1-year study period.				
						Future research should				
						look at long-term follow-				
						up, since effects of				
						psychotherapy seem to				
						take yrs to develop and to				
						continue after termination				
						of treatment				
						Transference-therapists				
						received more supervision				
						and had assessment of				
						treatment adherence.				
						Large difference between				
						dropout rates between				
						groups. Control group				
						participants attended				
						fewer sessions than the				
			_			intervention group.				
McMain, S.	RCT	Treatme	Age mean	Dialectical	General	Summary: both groups	Structured	Assessed at	Risk of suicide	QC
F., Links, P.	11 !!	nt	(SD)	behaviour	psychiatric	improved on most	Clinical Interview	baseline and	and self-	1.1=A
S., Gnam,	Level II	n=90	T=29.4±9.2	therapy.	management.	measures, except the	for DSM-IV Axis I	every 4	injurious	1.2=A
W. H.,		Control	C=		Consisted of	utilization of non-study	Disorders–Patient	months over	episodes	1.3=A
Guimond,		n= 90	31.3±10.6 Gender	Multimodal:	Consisted of	treatments decreased significantly more in the	Edition	the 1-year	rpb=0.89	1.4=F
T., Cardish,		The		Individual	case	DBT group than in the	International Personality	active	Symptom	1.5=A 1.6=A
R. J., Korman, L.,		primary	Female (n, %)	sessions (1	management, dynamically	general psychiatric	Disorder	treatment phase	Symptom severity	1.6=A 1.7=A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
& Streiner, D. L. (2009).		goal to eliminate	T= (81,90%) C=	hour weekly); skills group (2	informed psychotherapy	management group Detail: The utilization of	Examination		(ZRSBPD) rpb =1.13	1.8=Treatm ent 39%;
Α		behaviou	(84,82.2%)	hours weekly);	, and	non-study treatments	Treatment		1.15	Control
randomized		ral	(04,02.270)	phone	symptom-	decreased significantly	fidelity: modality		Depression	38%
trial of		dyscontr	DSM-IV	coaching (2	targeted	more in the DBT group	specific		(BDI) rpb =1.07	1.9= A
dialectical		ol by	criteria for	hours weekly).	medication	than in the general	adherence scales		(601) 100 -1.07	1.3- A 1.10=F
behaviour		helping	BPD via	Hours weekly).	management.	psychiatric management	aurierence scales		Anger (State-	2.1 = (+)
therapy		patients	Structured	Consultation	management.	group (odds ratio=0.52,	Frequency and		Trait Anger	2.1 - (+)
versus		develop	Clinical	team for	Individual	p=0.002).	severity of		Expression	
		more	Interview	therapists	sessions (1	ρ=0.002).	suicidal and non-		Inventory -	
general psychiatric		effective	interview	mandated (2	hour weekly)	The mean adherence	suicidal self-		Anger out) rpb	
			Inclusion:	hours weekly).	including	scores for essential	injurious		=0.32	
managemen t for		coping	Patients had	Hours weekly).	medication	interventions were	behaviour		-0.32	
borderline		strategie	to meet	Organized			episodes: Suicide		Health-related	
		S.	DSM-IV	Organized according to a	management based on	significantly greater than the mean adherence score	· ·		QoL (EQ-5D) rpb	
personality disorder.			criteria for	hierarchy of	structured	for proscribed dialectical	Attempt Self- Injury Interview		=0.24	
			BPD, be 18–			· ·	injury interview		-0.24	
The			60 yrs of	targets:	drug	behaviour therapy items	Dondonlino		Cumpton	
American			-	suicidal, treatment-	algorithm.	across all time points.	Borderline		Symptom	
journal of			age, and have had at		Theresist	Dath average should	symptoms:		distress (SCL-90-	
psychiatry,				interfering,	Therapist	Both groups showed	Zanarini Rating		R) rpb =0.68	
(12), 1365-			least two	and quality-of-	supervision	statistically significant	Scale for BPD		Intonomonal	
1374			episodes of	life-interfering	meeting	decreases in the frequency	C		Interpersonal	
Canada			suicidal or	behaviours.	mandated (90	of suicidal episodes (odds	General		functioning	
Canada			nonsuicidal	From It at & factors	minutes	ratio=	symptoms:		(Inventory of	
			self-injurious	Explicit focus	weekly). Focus	0.23, p=0.01) and	Symptom		Interpersonal	
			episodes in	on self-harm	is expanded	nonsuicidal self-injurious	Checklist–90–		Problems-64)	
			the past 5	and suicidal	away from	episodes (odds ratio=0.52,	Revised		rpb =0.45	
			yrs, at least	behaviour.	self-harm and	p=0.03).	C			
			one of which		suicidal		State-Trait Anger			
			was in the 3	Treatment	behaviours.	There were no b/w group	Expression			
			months	involves:	Davide a 1	differences in the	lanca atau			
			preceding	dialectical	Psychodynami	frequency of suicidal	Inventory			
			enrolment.	strategies,	c approach,	episodes or nonsuicidal	Beck Depression			
				irreverent and	emphasized	self-injurious episodes.	Inventory			
			Exclusion:	reciprocal	the relational					
			Were	communicatio	aspects and	Those with any suicidal or	Inventory of			
			limited to	n style, formal	early	nonsuicidal self-injurious	Interpersonal			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			having a DSM-IV diagnosis of a psychotic disorder, bipolar I disorder, delirium, dementia, or mental retardation or a diagnosis of substance dependence in the preceding 30 days; having a medical condition that precluded psychiatric medications; living outside a 40- mile radius of Toronto; having any serious medical condition likely to require hospitalizati on within the next	skills training. Behavioural strategies: exposure, contingency management, diary cards, behavioural analysis. Patients encouraged to rely on skills over pills where appropriate (e.g., anxiolytics). Tapering from medications was a treatment goal.	attachment relationships. Disturbed attachment relationships related to emotion dysregulation as a primary deficit. Involves attention to signs of negative transference. Patients were encouraged to use medications concurrently.	episodes experienced a significant decrease in the medical risk over time, but there was no betweengroup difference. Using mixed-effects linear growth curve analyses, significant decreases over the 1-year treatment period (but no betweengroup differences) were found for the following variables: borderline symptoms, depression, interpersonal functioning, symptom distress, and anger. On health-related quality of life (based on the EQ-5D thermometer), both groups reported improvements, but these changes were not statistically significant. Based on generalized-estimating-equation analysis, participants in both groups showed statistically significant decreases in the total number of emergency department visits (odds ratio=0.43, p<0.0001), with no statistically	Problems, 64- item version Health-related quality of life: EQ- 5D thermometer Treatment History Interview: self-reported counts of the number of hospital admissions, days in hospital, emergency department visits, medications, and outpatient psychosocial treatments. Reasons for Early Termination From Treatment Questionnaire			

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/ Level of		Age Gender					follow-up	Size	
	Evidence		Diagnosis							
			Other							
			year (e.g.,			significant differences				
			cancer); and			between groups.				
			having plans							
			to leave the			Both groups demonstrated				
			province in			statistically significant				
			the next 2			reductions in the number				
			yrs			of emergency department				
						visits for suicidal				
						behaviour (odds				
						ratio=0.35, p<0.0001),				
						with no between-group				
						differences.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Soler, J.,	RCT	Treatment	Age mean	Dialectical	Standard	Summary: mental state and	BPD core	13 weekly	Between	QC
Pascual, J.	Level II	n=29	(SD)	behaviour	group	psychopathology scales showed	symptoms:	sessions	group	1.1=A
C., Tiana, T.,		Control n=	T= 28.45	therapy -	therapy	significant difference favouring	Clinical Global		standardised	1.2=A
Cebria, A.,		30	±6.55	Skills	(SGT)	DBT-ST.	Impression-BPD		mean	1.3=E
Barrachina,			C=29.98±5.6	training	The SGT		(CGI-BPD)		differences	1.4=B
J., Campins,			3	(DBT-ST)	format was	Detail: No significant	Hamilton Rating		d (95% CI)	1.5=B
M. J., Perez,			Gender	DBT-ST and	oriented to	differences of mean number of	Scale-Depression		No. of	1.6=A
V. (2009).			Female (n,	SGT,	provide a	attended sessions between the	(HRSD-17)		medications,	1.7=A
Dialectical			%)	consisted of	relational	two groups.	Hamilton Rating		d= -0.16	1.8=Treatm
behaviour			T=	thirteen	experience,	DBT-ST group showed a	Scale-Anxiety		(-0.45, 0.13)	ent: 34%
therapy			(23,79.3%)	psychothera	allowing	significant improvement in	(HRSA)		No. of non-	drop out;
skills			C= (26,	py sessions	people with	more psycho- pathology scales.	Psychotic		study tre, d=	Control:
training			86.7%)	of 120 min	BPD to share	DBT-ST group showed a greater	symptoms:		-0.39 (-0.69,	63% drop
compared				each, 2	their	decrease in depression, anxiety	Brief Psychiatric		-0.10) HRSD-	out;
to standard			Diagnosis:	therapists (a	characteristi	and general psychiatric	Rating Scale (BPRS)		17, d= -0.98	Intention to
group			BPD via	male and a	c difficulties.	symptoms compared with the	Psychiatric		(-1.52, -0.44)	treat
therapy in			Structured	female) for	Prominent	SGT group.	symptoms:		HRSA, d=	analysis
borderline			Clinical	each group,	techniques	Regarding the SCL90-R, HLM	Symptom Checklist,		-0.68 (-1.21,	1.9= A
personality			Interview for	in groups of	used were	analysis showed statistically	Revised (SCL90-R)		-0.16)	1.10=F
disorder: A			DSM-IV Axis	9–11	interpretatio	significant differences in the	Hostility/irritability:		BPRS, d =	2.1 = (+)
3-month			II Disorders	participants.	n (although	psychoticism subscale, and in	Buss-Durkee		-0.67 (-1.19,	Large
randomised			(SCID-II) and	The DBT	this was not	the BDI irritability subscale.	Inventory (BDI).		-0.14)	differences
controlled			the Revised	format used	used	A greater decrease was			BDI	in retention
clinical trial.			Diagnostic	was adapted	systematicall	detected in the DBT-ST	Impulsivity:		Irritability,	
Behaviour			Interview for	from the	y),	condition.	Barrat Inventory		d = -0.61	
Research			Borderlines	standard	highlighting,	Both treatment conditions	(BI).		(-1.13, -0.09)	
and			(DIB-R).	version,	exploration,	showed significant reductions in			BDI Indirect	
Therapy,			Exclusion:	applying one	clarification	CGI-BPD global severity scores.	In addition to		Hostility, d =	
47(5), 353-			Inclusion	of the four	and	However, no significant	clinical scales, they		0.51 (-1.03,	
358.			criteria	modes of	confrontatio	differences were displayed	rated self-injury,		0.01)	
			consisted of:	intervention	n. The	between groups in HLM	suicide attempts,		SCL-90-R	
Spain			1) meeting	: skills	therapists	analysis.	and visits to		GSI, d=-0.42	
			the DSM-IV	training.	mainly	In this measure, several specific	psychiatric		(-0.95, 0.09)	

Country Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
		diagnostic criteria for BPD; 2) age between 18 and 45 yrs; 3) no comorbidity with schizophreni a, drug- induced psychosis, organic brain syndrome, alcohol or other psychoactive substance dependence, bipolar disorder, mental retardation, or major depressive episode in course; 4) Clinical Global Impression of Severity (CGI-S) score	DBT-ST included all the original skills. These skills can be divided into those that promote change, interpersona I effectivenes s and emotional regulation skills, and those that promote acceptance, mindfulness and distress tolerance skills. Similar to other skills training in behavioural treatments, DBT-ST includes teaching, in-	played a role of conductor in group interactions, and targeted specially nihilistic or destructive interactions, characteristi c BPD interactions and those that could interfere with group functioning. SGT intervention s were led by two experienced psychodyna mic-oriented psychothera pists.	sub-scales, such as: anger, emptiness, and affect instability, had a significantly greater reduction in DBT-ST compared to SGT. No differences were seen in the other scales (impulsivity) or behavioural reports (number of self-harm behaviours, suicides or emergency visits) used in the study.	emergency service'		SCL-90-R Interperson, d=-0.81 (- 1.34, -0.28) SCL-90-R Hostility, d= -0.34 (-0.85, 0.17) SCL-90-R Psychoticism , d= -0.58 (-1.10, -0.06) CGI-BPD Global, d= -1.02, (-1.57, -0.48) CGI-BPD Unstable rel, d= -0.29 (-0.80, 0.22) CGI-BPD Impulsivity, d= -0.62 (-1.15, -0.10) CGI-BPD Suicide, d= -0.10 (-0.61, 0.41) CGI-BPD Affect Instability, d= -1.08 (-1.63, -0.53)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
			≥ 4; 5) no current psychothera py.	session practice of new skills and homework assignments to practice each skill every week. DBT-ST intervention was led by 2 cognitive behavioural psychothera pists with prior					CGI-BPD Anger, d = -0.85 (-1.38, -0.32) CGI-BPD Emptiness, d = -0.44 (-0.95, 0.08) CGI-Global Improv- Patient, d = 0.68 (0.16, 1.21)	
				experience in BPD group therapy						

Social/Personal Functioning

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect Size	Comments
	Level of		Gender					follow-		
	Evidence		Diagnosis					up		
			Other							
Bateman,	RCT	N=41	Age and	Partial	Treatment as	Summary: MBT had a greater	Primary: number of	2 yrs	Suicide	QC
A., &	Level II	T=22	gender not	hospitalisati	usual (TAU)	effect than TAU on clinical	suicide attempts		attempts total,	1.1=A
Fonagy, P.		C= 19	reported.	on	consists of	symptoms, suicide and risk	over the whole of		d=1.4 (0.3, 1.5)	1.2=B
(2008). 8-	RCT (8 yrs			consisting of	general	behaviours, service utilisation	the 5year post-		Zanarini Rating	1.3=B
year follow-	since		Diagnosis:	a long-term	psychiatric	and general functioning	discharge follow-up		Scale (ZRS) for	1.4=B
up of	interventio		BPD on both	psychoanaly	outpatient	Detail: 23% made suicide	period. Associated		BPD:	1.5=B
patients	n follow-		Structured	tically	care with	attempts in the mentalization-	outcomes were		total: d=1.8	1.6=A
treated for	up –		Clinical	orientated	medication	based treatment group (mean	service use,		(0.14, 3.5),	1.7=A
borderline	reporting		Interview for	treatment	prescribed by	attempts 0.5±0.9), contrasted	including		affect: d=1.1	1.8= 0%
personality	occurrence		DSM-III-R	for 18	the consultant	with 74% of the treatment as	emergency room		(0.41, 1.7),	and 18%
disorder:	s since the		and	months.	psychiatrist,	usual group (mean attempts	visits; the length		cognitive: d=	1.9= C
Mentalizatio	3 year		Diagnostic	Metallizatio	community	0.52±0.48), which was	and frequency of		0.84 (0.3, 1.4),	1.10=F
n-based	follow-up).		Interview for	n based	support from	significant.	hospitalization;		impulsivity: d=	2.1 = (+)
treatment			Borderline	treatment	mental health	Mean number of emergency	continuing		1.2 (0.59, 1.9),	
versus			Patients.	(MBT)	nurses, and	room visits and hospital days	outpatient		interpersonal:	
treatment				individual	periods of	highly significantly favoured	psychiatric care;		d=1.6 (1, 2.3)	
as usual.			Exclusion: If	and group	partial	the MBT group, as did the	and use of		GAF, d=0.75	
American			the met	therapy.	hospital and	continuing treatment profile.	medication,		(-1.9, 3.4)	
Journal of			criteria for	MBT by	inpatient	During mentalization-based	psychological		No. of days of	
Psychiatry,			schizophreni	partial	treatment as	treatment group therapy, all of	therapies, and		hospitalisation,	
165(5), 631-			a, bipolar,	hospitalizati	necessary but	the experimental group but	community		d=1.5 (0.36,	
638.			substance	on consists	no specialist	only 31% of the treatment as	support.		2.7)	
			misuse or	of 18-month	psychotherap	usual group received therapy.	Secondary:		No. of	
(follow up			mental	individual	у.	Over the 5-year postdischarge	1) symptom status		emergency	
from			impairment	and group		period, both groups received	as assessed at a		room visits, d=	
Bateman A,			or had	psychothera		around 6 months of	follow-up interview		1.4 (0.21, 2.63)	
Fonagy P:			evidence of	py in a		psychological therapy (n.s.).	using the Zanarini		No. of yrs of	
Effectivenes			organics	partial		For all other treatments, the	Rating Scale for		employment,	
s of partial			brain	hospital		TAU group received	DSM-IV borderline		d= 0.94 (0.29,	
hospitalizati			disorder.	setting		significantly more input	personality disorder		1.6)	
on in the				offered		postdischarge—3.6 yrs of	2) global		No. of yrs	
treatment				within a		psychiatric outpatient	functioning as		psychiatric	
of				structured		treatment and 2.7 yrs of	measured by the		outpatient	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
borderline				and		assertive community support,	Global Assessment		treatment, d=	
personality				integrated		compared with 2 yrs and 5	of Functioning Scale		0.93 (-4, 1.5)	
disorder: a				program		months, respectively, for the	(GAF) at 6-month		No. of yrs	
randomized				provided by		mentalization-based	intervals after 18		further therapy	
controlled				a supervised		treatment group.	months of		36 months	
trial. Am J				team.		The TAU group had an average	mentalization-		post-intake, d=	
Psychiatry				Expressive		of over 3 yrs taking	based treatment by		0.07 (-0.23,	
1999;				therapy		antipsychotic medication,	partial		0.37)	
156:1563-				using art and		whereas the mentalization-	hospitalization:		No. of yrs	
1569)				writing		based treatment group had	TX profiles		further	
				groups is		less than 2 months.	(emergency room		assertive	
				included.		Smaller but still substantial	visits,		outreach	
				Crises are		differences were apparent in	hospitalization,		treatment,	
				managed		antidepressant and mood	psychiatric		d=1.8 (1.4, 2.2)	
				within the		stabilizer use.	outpatients,		Medication	
				team;		The TAU group spent nearly 2	community		(yrs)	
				medication		yrs taking three or more	support,		antidepressant	
				is prescribed		psychoactive medications,	psychotherapy,		s, d= 1.1 (0.45,	
				according to		compared to an average of 2	medication) and		1.7)	
				protocol by		months for the mentalization-	suicidality and self-		Medication	
				a		based treatment group.	harm using criteria		(yrs)	
				psychiatrist		At the end of the follow-up	defined in the		antipsychotics,	
				working in		period, 13% of the	original trial for		d= 2.04 (1.6,	
				the therapy		mentalization-based	each patient by		2.5)	
				program.		treatment patients met	interview and		Medication	
				The focus of		diagnostic criteria for BPD,	scrutiny of medical		(yrs) mood	
				therapy is on		compared with 87% of the	records.		stabilisers,	
				the patient's		TAU group.	Collected data		d=1.17 (0.73,	
				moment-to-		The contrast between mean	twice yearly on		1.6)	
				moment		total scores for the Zanarini	vocational status,		Medication	
				state of		Rating Scale for BPD yielded a	calculating the		(yrs) three or	
				mind. The		large effect size favouring the	number of 6-month		more drugs, d=	
l				patient and		mentalization-based	periods in which		1.45 (1.1, 1.8)	
				therapist		treatment group, albeit with a	the patient was			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				collaborative		wide confidence interval.	employed or			
				ly try to		Multivariate analysis of	attended an			
				generate		variance across the four	educational			
				alternative		symptom clusters also	program for more than 3 months.			
				perspectives to the		reflected the better outcome for the mentalization-based	Patient recall for			
				patient's		treatment group (Wilks's	self-harm was			
				subjective		lambda=0.55, F=6.4, df=4, 32,	unreliable and			
				experience		p=0.001).	could not be			
				of himself or		The largest differences	independently			
				herself and		favouring mentalization-based	corroborated from			
				others by		treatment were in terms of	medical records and			
				moving from		impulsivity and interpersonal	so is not reported.			
				validating		functioning.	The authors			
				and		There was over a 6-point	consider the			
				supportive		difference in the GAF scores	frequency of			
				intervention		between the two groups,	emergency room			
				s to		yielding a clinically significant	visits to be a			
				exploring		moderate effect size of 0.8	reasonable proxy of			
				the therapy		(95% CI=-1.9 to 3.4).	severe self-harm in			
				relationship		46% OF MBT group compared	this population.			
				itself as it		to 11% of the TAU group had				
				suggests		GAF scores above 60.				
				alternative		Vocational status favoured the				
				understandi		MBT group, who were				
				ng.		employed for nearly three				
						times as long as the TAU				
						group. There was increase in the % of				
						MBT groups employment or				
						education in the three post				
						discharge periods.				
						alsenarge periods.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Bateman,	RCT	N=134	Age mean	Mentalizatio	Protocol-	Summary: This study suggests	Primary outcome:	18 mths	Life-	
A., &	Level II		(SD)	n-based	driven	that structured, integrated	proportion of each	Assesse	threatening	Very good
Fonagy, P.		MBT (T)	TX= 31.3	treatment	treatment,	psychological and psychiatric	group without	d at	suicide	description
(2009).		n= 71	(7.6)	(MBT) is	structured	treatment offering	severe parasuicidal	entry	attempts, d =	of factors
Randomized			C=30.9 (7.9)	manualized,	clinical	coordinated clinical	behaviour as	and	0.65 (0.58,	similar
controlled		SCM (C) n=		consisting of	management	management recommended	indicated by 1)	over the	0.73)	between
trial of		63	Female (n,	18 months	(SCM), in an	by NICE significantly benefits	suicide attempt, 2)	course	Severe self-	groups and
outpatient			%)	of weekly	outpatient	patients with borderline	life-threatening	of an	harm	randomisati
mentalizatio		MBT =	TX= 57,	combined	context	personality disorder.	self-harm, or 3)	18-mth	attempts, d =	on
n-based		mentalizati	80.3%	individual	representing	Both conditions were	hospital admission.	treatme	0.62 (0.28,	procedures.
treatment		on-based	C= 50, 79.4%	and group	best current	associated with substantially	Hospital admission	nt at 6,	0.97)	
versus		treatment	Diagnosis -	psychothera	clinical	reduced suicidality, self-harm,	was included	12, and	Interpersonal	QC
structured			All	py provided	practice.	and hospitalization and	because patients	18 mths.	distress, d =	1.1=A
clinical		SCM =	participants	by two dif-	Practitioners	improvement on measures of	are primarily		0.95 (0.59, 1.3)	1.2=A
managemen		structured	were	ferent	received	symptoms and social and	offered inpatient		Social	1.3=B
t for		clinical	assessed	therapists.	equivalent	interpersonal functioning by	care in anticipation		adjustment	1.4=F
borderline		manageme	using the	MBT is a	supervision.	the end of treatment.	of suicide attempts		problems, d =	1.5=A
personality		nt	Structured	psychodyna	Crisis plans	The rate of improvement in	and severe self-		0.72 (0.37,	1.6=A
disorder.			Clinical	mic	were	both groups was higher than	harm		1.06)	1.7=A
American			Interview for	treatment	developed	spontaneous remission of			Symptom	1.8= 0%
Journal of			DSM-IV	rooted in at-	collaborativel	symptoms of BPD. Although	Secondary		distress, d =	1.9= A
Psychiatry,			(SCID-I and	tachment	y within each	patients in both groups made	outcome: were		0.67 (0.33,	1.10=F
166(12),			SCID-II).	and	treatment	statistically significant	independently		1.02)	2.1 = (+)
1355-1364.			Ethnicity -	cognitive	team for all	improvements, MBT was as-	rated Global		Depression, d=	
UK			White	theory. It	patients. SCM	sociated with greater	Assessment of		0.45 (0.1, 0.79)	
			British/Euro	requires	therapists	improvements than SCM for	Functioning (GAF)		Hospital	
			pean MBT:	limited train-	focused on	most outcomes.	scores at the		admissions,	
			76.1%, SCM:	ing with	support and		beginning and end		suicidal and	
			68.3%; Black	moderate	problem	Detail:	of treatment and		self-injurious	
			African/Afro	levels of	solving.	Suicidal behaviour: Six-month	self-reported		episodes, d =	
			-Caribbean	supervision		periods free of suicidal	psychiatric		-0.72 (-1.07,	
			MBT: 15.5%,	for		behaviours, severe self-	symptoms, social		-0.37)	
			20.6%	implemen-		injurious behaviours, and	and interpersonal		Length of	
			Other	tation by		hospitalization improved from	functioning, and		hospitalisation	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
	Evidence		Other					ир		
			Chinese/Tur	generic		0% to 43% in the SCM group	medication use		, d = -0.43,	
			kish	mental		and to 73% in the MBT group;	assessed at baseline		(-0.78, -0.09)	
			Pakistani	health		behaviour increased in	and at 6-month		Medication	
			8.5%, 11.1%	professional		patients assigned to MBT	intervals until the		use, d= -0.58,	
			Exclusion	S.		more than for patients in the	end of treatment at		(-0.93, -0.24)	
			Inclusion	It aims to		SCM group, however, differ-	18 months.		Psychiatric	
			criteria were	strengthen		ences only became statistically			hospitalisation,	
1			1) diagnosis	patients'		significant after 12 months of	Patients' subjective		d= -0.53,	
			of BPD, 2)	capacity to		treatment.	experience of		(-0.88, -0.19)	
			suicide	understand			symptoms was			
			attempt or	their own		Number of episodes of	measured using the			
			episode of	and others'		hospital admissions, suicide	SCL-90-R, and			
			life-	mental		attempts, and severe self-	depression was			
			threatening	states in		injuries) also declined in both	assessed by using			
			self-harm	attachment		groups but a substantially	the Beck			
			within last 6	contexts in		greater reduction in the MBT	Depression			
			months, and	order to		than the SCM group.	Inventory.			
			3) age 18–	address		Data were relatively consistent	Social adjustment			
			65. Exclusion	their		and showed reduced suicidal	and interpersonal			
			criteria were	difficulties		behaviour in both groups. The	functioning were			
			kept to a	with affect,		rate of improvement was	measured using the			
			minimum.	impulse		significantly greater in the	modified Social			
			Patients	regulation,		MBT group both in terms of	Adjustment Scale-			
			were	and		any suicide attempt and the	self-report and the			
			excluded if	interpersona		count data associated with it.	Inventory of			
			they	1		Differences between groups	Interpersonal			
			currently 1)	functioning,		only became marked in the	Problems-			
			were in	which act as		last 6 months of treatment; at	circumflex version.			
			long-term	triggers for		12 months, groups were not				
			psychothera	acts of		significantly different.				
			peutic	suicide and		Self-harm: Frequency of self-				
			treatment,	self-harm.		harm behaviours had				
			2) met DSM-	Crisis plans		significantly steeper reduction				
			IV criteria	were		in the MBT group compared				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			for psychotic	developed		with SCM.				
			disorder or	collaborative		During the 6 months before				
			bipolar I	ly within		end of treatment fewer				
			disorder, 3)	each		patients in the MBT group				
			had opiate	treatment		severely self-harmed (24%				
			dependence	team for all		versus 43%, c2=4.6, p<0.05;				
			requiring	patients.		relative risk=0.55, 95%				
			specialist	MBT		CI=0.33-0.92).				
			treatment,	therapists		However, during the first 6				
			or 4) had	focused on		months of tx, comparison of				
			mental	helping		the proportion of individuals				
			impairment	patients		manifesting self-injurious				
			or evidence	reinstate		behaviour favoured the SCM				
			of organic	mentalising		group (75% versus 59%,				
			brain	during a		c2=3.1, p<0.08; relative				
			disorder.	crisis via		risk=1.27, 95% CI=0.99–1.63).				
			Current	telephone		From 6 to 18 months the				
			psychiatric	contact.		proportion of these patients in				
			inpatient	SCM		the MBT group who self-				
			treatment,	therapists		harmed showed a steeper				
			temporary	focused on		decline when compared with				
			residence,	support and		the SCM group.				
			drug/alcohol	problem		The more consistent reduction				
			misuse, and	solving		in the counts of self-injurious				
			comorbid			behaviour and the difference				
			personality			in incidence rate ratios				
			disorder			favouring MBT was highly				
			were not			statistically significant.				
			exclusion			Hospitalisation:				
			criteria.			Before treatment about 25%				
						of each group had had at least				
						one hospital admission. During				
						the first 6 months of				
						treatment patients in the MBT			1	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						group had significantly fewer				
						days in hospital (Kruskal-Wallis				
						c2=4.25, p<0.04), and the				
						difference increased by 12				
						months (Kruskal-Wallis				
						c2=6.54, p<0.02) and 18				
						months (Kruskal-Wallis				
						c2=9.01, p<0.003).				
						The decline in number of				
						admissions over the whole				
						period of treatment was				
						significantly steeper in the				
						MBT group.				
						The number of patients				
						hospitalized reduced in the				
						MBT group relative to the SCM				
						group and was markedly lower				
						in the MBT group in the last 6				
						months of treatment (c2=7.7,				
						p<0.005; relative risk=0.14,				
						95% CI=0.3–0.64).				
						Secondary outcomes: GAF				
						increased substantially for				
						both groups over the 18-				
						month period from 41 (95%				
						CI=39.7-42.7) to 57 (95%				
						CI=54.9-60.0) (t=15.5, df=125,				
						p<0.0001) but the increase				
						was rated as greater in the				
						MBT group. There was				
						improvement on all self-rated				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						measures for both groups. This				
						was particularly notable for				
						symptoms of depression and				
						social adjustment. The slope of				
						decline in self-reported				
						symptoms and relationship				
						and social adjustment				
						problems was significantly				
						greater in the MBT group				
						across all four measures.				
						The size of difference between				
						the two groups at the end of				
						treatment was substantial for				
						reduction in interpersonal				
						distress (d=0.95, 95% CI=0.59–				
						1.3), moderate for social				
						adjustment problems (d=0.72,				
						95% CI=0.37–1.06) and				
						symptom distress (d=0.67,				
						95% CI=0.33–1.02), and more				
						modest for depression				
						(d=0.45, 95% CI=0.10-0.79).				
						Medication: use of medication				
						reduced significantly in both				
						groups. The proportion of				
						patients not receiving				
						medication increased from				
						27% to 57%. The increase was				
						greater for the MBT group.				
						Counting the number of				
						classes of psychotropic				
						medication also showed a				
						decline across both groups				
					1	with the incidence rate ratio				

Country I	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						suggesting a significant difference in favour of the MBT group. The number of people receiving two or more different classes of medication substantially reduced in both groups from 30% at the beginning of treatment to 8% at the end of treatment.				
, ,	RCT Level II	N= 55 enrolled n=44 analysed	participants (18 male, 37 female) with DSM-IV-TR diagnosis of BPD were recruited from patients attending the Service for Personality Disorder of the Unit of Psychiatry, Dept. of Neuroscienc e, University of Turin. Mean age of	28 patients received fluoxetine 20 mg to 40 mg daily (see control group for schedule) plus IPT-BPD. IPT-DBT consisted of weekly, manualised sessions lasting 1 hour. Patients in the combined therapy group were	27 patients received fluoxetine 20 mg to 40 mg daily plus clinical management consisting of a fortnightly clinical review of 15-20 minutes duration. Initially, fluoxetine was prescribed at a fixed dosage of 20 mg daily with the opportunity to increase	Summary: Small sample size limits ability to draw strong conclusions but results suggest that combined therapy was superior to monotherapy in relieving anxiety, improving functioning and alleviating the severity of some symptoms of BPD during the 32 weeks of the trial. Detail: Of 55 subjects, 11 (20%) dropped out (6 in medication-only, 5 in combined therapy). Only treatment completers (n=44) were included in the analysis. Using a univariate General Linear Model to calculate the effects of 1) duration of treatment and 2) the type of treatment on each assessment scale score, only duration of	Depression (Hamilton Depression Rating Scale) Anxiety (Hamilton Anxiety Rating Scale) Quality of life (SAT- P satisfaction profile) Global functioning (CGI Clinical Global Impression Scale) Social and occupational functioning (SOFAS) BPD symptoms severity and frequency (BPD-SI)	Treatme nt lasted 32 wks.	Not reported	No Intention to treat analysis – only analysed data for completers (i.e. 44 of 55 enrolled) and potential attrition bias due to lack of compliance was not addressed. Combined therapy was not

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			only group	pist who was	beginning in	functioning, depressive				alone.
Italy			and 26.2 yrs	not the	week 2,	symptoms and social and				QC
			in combined	psychiatrist	depending on	occupational functioning				1.1=A
			therapy	prescribing	clinical	(p=<0.001), while both				1.2=C
			group; 62%	the	judgment.	treatments alleviated				1.3=B
			previous	medication	treatment	symptoms of depression and				1.4=D
			hospitalizati	and who had	lasted 32	improved global functioning.				1.5=B
			ons; 27%	5 yrs of	weeks.	Combined therapy was				1.6=B
			employed;	experience		superior to medication-only in				1.7=B
			31%	practising		alleviating anxiety symptoms				1.8= 20%
			married.	IPT.		(p=<0.001).				1.9=D
			Excluded	The		Combined therapy was				1.10=F
			were those	psychothera		significantly superior to				2.1 = (-)
			with a	py and the		medication-only in improving				
			lifetime	pharmacoth		psychological functioning				
			diagnosis of	erapy		(p=0.003). The interaction				
			delirium,	started at		between combined therapy				
			dementia,	the same		and treatment duration was				
			amnestic or	time.		superior to medication-only in				
			other			improving social functioning as				
			cognitive			measured by the SAT-P for				
			disorders,			subjective quality of life				
			schizophreni			(p=0.03).				
			a or other			Only duration of therapy had				
			psychotic			an effect on the BPD-SI total				
			disorders,			score (p=<0.001), and duration				
			and bipolar			also had an effect on the				
			disorder.			following factors from the				
			Concomitant			BPD-SI: outbursts of anger				
			Axis I or II			(p=<00.1) and emptiness				
			disorders			(p=<.001). Combined therapy				
			were also			had significant effects on				
			excluded.			interpersonal relationships				
		1	Female		1	(p=<.009), impulsivity	1			1

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-	Effect Size	Comments
	Evidence		Diagnosis Other					up		
			patients of			(p=<0.01), and affective				
			childbearing			instability (p=0.02) which				
			age were			increased over time (p=<0.001				
			excluded if			for all domains).				
			they were			Neither type of therapy nor				
			not using an			duration of therapy had				
			adequate			effects on: abandonment,				
			method of			parasuicidal behaviour,				
			birth			paranoid ideation, and				
			control, as			identity.				
			were those							
			who had							
			recently							
			received							
			psychothera							
			py or							
			pharmacoth							
			erapy, and							
			current							
			substance							
			abusers.							
Bos, E. H.,	RCT	N=79	Between 8	Systems	TAU	Summary: Moderate to large	Primary efficacy	Pre-	Effect sizes	Raters were
Van Wel, E.	Level II	TX (n = 42)	and 12	Training for	The STEPPS	effect sizes were seen for	measures included	treatme	(non-	not blind
B., Appelo,		C (n = 37)	subjects	Emotional	groups began	symptom variables and	general psychiatric	nt	standardised):	and
M. T., &	Randomiza		were	Predictabilit	simultaneousl	psychological quality of life at	and BPD-specific	assessm	Primary	interrater
Verbraak,	tion was		included in	y and	y with a group	T2. At T3, moderate effects on	symptoms,	ents	outcomes:	reliability
M. J. (2010).	done		each group	Problem	of patients	symptoms were still present,	measured with the	(T1)	Estimated	was not
A	separately		for the	Solving	that started	while also moderate effects on	Symptom Checklist-	took	mean	assessed
randomized	at each		Treatment	(STEPPS) +	TAU. The	physical, social and overall	90 total score (SCL-	place	differences at	for the
controlled	location.		group. If at	individual	control	quality of life could be	90) and the	followin	the end of	BPDSI-IV.
trial of a			the time of	treatment	condition was	observed.	Borderline	g	treatment (T2),	Intention to
Dutch			randomisati	Group	treatment as	More than TAU, STEPPS plus	Personality	randomi	adjusted for	treat
version of			on, an	treatment; it	usual, i.e., the	limited adjunctive individual	Disorder checklist-	zation,	differences at	analysis
systems			insufficient	combines	standard	therapy reduced	40 total score (BPD-	just	T1, were: SCL-	was

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
training for			number of	skills training	treatment for	symptomatology and	40) respectively.	before	90, -47.0 (95%	completed
emotional			participants	with general	BPD offered	improved quality of life, also in	Secondary outcome	the start	CI, -78.2 to	but yielded
predictabilit			were	CBT	at the	the longer run. STEPPS was not	measures included	of the	-15.9, p =	similar
y and			assigned to a	elements	participating	superior to TAU in reducing	impulsive and	interven	0.003); BPD-	results to
problem			group, the	and has a	sites. This	impulsive and parasuicidal	parasuicidal	tion.	40, -18.7 (95%	the per-
solving for			remaining	strong	treatment	behaviours, but this may be	behaviour, and	Post-	CI, -31.6 to	protocol
borderline			spots were	systems	consisted of	explained by the low base rate	quality of life.	treatme	-5.8, p =0.005).	analysis so
personality			randomly	component;	individual	of these behaviours in our	Impulsive and	nt	At 6-month	only the
disorder.			assigned to	family	therapy from	sample. It may also be that a	parasuicidal	assessm	follow-up (T3),	per-
Journal of			subjects	members	a	more intensive treatment,	behaviour were	ents	the differences	protocol
Nervous and			who did not	and	psychotherapi	such as DBT, is required to find	assessed using 2	(T2)	were smaller	analysis
Mental			meet full	significant	st,	differential effects on these	subscales of the	were	but still	was
Disease,			BPD criteria	others are	psychologist,	behaviours. The merit of the	Borderline	done	significant:	presented.
198(4), 299-			(these	actively	or psychiatric	STEPPS program is that it is	Personality	after the	SCL-90, -38.4	The
304.			participants	involved in	nurse, offered	relatively easily learned and	Disorder Severity	final	(95% CI, -67.1	comparabili
			were not	the	every 1 to 4	implemented, and	Index-IV (BPDSI-IV).	weekly	to -9.6, p	ty of
The			included in	program.	weeks.	nevertheless improves BPD	The impulsivity	session	=0.009); BPD-	treatment
Netherlands			this		STEPPS-	treatment in a number of	subscale contains	of the	40, -14.7 (95%	between
			analysis).	The Dutch	related	ways. Further research to	11 items reflecting	STEPPS	CI, -26.6 to	sites and
				version of	treatments	compare this treatment with	potentially harmful	program	-2.8, p =0.016).	the
			Age mean	the STEPPS	like DBT or	other effective treatments is	impulsive	(mean		comparabili
			(SD)	group	family groups	warranted. Importantly, this	behaviours (e.g.,	23.9	Secondary	ty between
			Treatment	program	for family	RCT on STEPPS is the first done	gambling, reckless	±3.6	outcomes:	different
			32.9 (5.6)	involves 18	members of	by others than its developers.	driving, binge	weeks	In the domain	therapists
			Control 31.8	weekly	the patients	Detail: Scores on the primary	eating). The	after	of	was not
			(9.2)	sessions and	were not	efficacy measures. SCL-90 and	parasuicide	T1).	Psychological	assessed.
				a single	allowed.	BPD-40 symptom scores	subscale contains	Follow-	Health, STEPPS	
			Gender –	follow-up	In both	generally decreased from T1	13 items reflecting	up	scores were	QC
			female (n,	session 3 to	conditions,	to T3, and more so in the	self-mutilating	assessm	higher than	1.1=A
			%)	6 months	the main	STEPPS group than in the TAU	Parasuicidal	ents	TAU scores	1.2=A
			Treatment	after the	treatment	group.	behaviours and	(T3)	particularly at	1.3=B
			35, 83.3%	conclusion	could be	Quality of life scores	suicidal thoughts	took	T2 (estimated	1.4=F
			Control 33,	of the	supplemented	(WHOQOL-Bref) generally	and attempts.	place	mean	1.5=A
			89.2%	program.	with	increased from T1 to T3.	Quality of life was	approxi	difference	1.6=A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				The program	(medication)	Overall treatment effects were	measured with the	mately 6	adjusted for T1	1.7=B
			Diagnosis	has 3 main	contacts with	found for Overall Quality of	World Health	months	score: 2.08	1.8=28.9%
			BPD	components	a psychiatrist,	Life and General Health,	Organization	after T2	[95% CI, 0.76 –	(TX) and
			confirmed	: (1)	social worker,	Physical Health, and	Quality of Life	(mean	3.41,	13.2% (C)
			by	psychoeduca	or other	Psychological Health. For	Assessment-Bref	25.7	p=0.002]); at	1.9= 3
			administerin	tion about	health care	Social Relationships the overall	(WHOQOL-Bref)	±4.2	T3, this	1.10=4
			g the BPD	BPD; (2)	professional.	treatment effect was a trend,		weeks	difference was	2.1 = (+)
			modules	emotion		for Environment the overall		after	reduced to	
			from the	managemen		treatment effect was not		T2).	0.91 (95% CI,	
			Dutch	t skills		significant.		Outcom	-0.32–2.15, p =	
			versions of	training; and		In both conditions, the		е	0.146). With	
			the	(3)		number of patients scoring		measure	respect to	
			Personality	behaviour		above the cut-off for ratings		s were	Overall Quality	
			Diagnostic	managemen		for the parasuicide and		assesse	of Life and	
			Questionnair	t skills		impulsivity subscales of the		d on all	General	
			e and the	training.		BPDSI-IV decreased from T1 to		3	Health,	
			Structured	STEPPS is		T3. There were no significant		occasion	Physical Health	
			Clinical	system-		differences between the		S	and Social	
			Interview for	based in that		conditions (overall treatment			Relationships,	
			DSM-IV Axis	friends and		effects).			STEPPS scores	
			II Disorders.	relatives of		Medication was similar			were	
			Participants	the patients		between the groups at			significantly	
			had to be	are explicitly		baseline and remained stable			higher than	
			above	involved in		during follow-up assessment.			TAU scores	
			threshold on	the program		Over the entire study period,			only at T3	
			either	for support		patients in the STEPPS group			(estimated	
			impulsivity	and		received 15 STEPPS group			differences	
			and/or	reinforceme		sessions on average, and had a			1.80 [95% CI,	
			parasuicide	nt of the		mean of 8 contacts with their			0.30 -3.30, p=	
			subscales of	newly		individual therapist. TAU-			0.019]; 1.41	
			the BPD	learned skills		patients had a mean of 9			[95% CI, 0.15-	
			Severity	(the		individual contacts with their			2.66, p =	
			Index-IV	"support		main therapist. In addition to			0.028]; and	
			Exclusion	group").		these study treatment			1.86 [95% CI,	

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-	Effect Size	Comments
	Evidence		Diagnosis					up		
			Other							
			Subjects	They receive		contacts, TAU-patients			0.14 -3.57, p =	
			were	education		reported to have had 31			0.035],	
			excluded if	about BPD		ambulatory therapy contacts			respectively),	
			they did not	and are		on average with other mental			but not at T2	
			speak Dutch;	instructed		health care workers (e.g.,			(estimated	
			were	how to		psychiatrists, psychologists,			differences	
			cognitively	interact with		psychiatric nurses, social			1.58 [95% CI,	
			impaired (IQ	the person		workers). Patients in the			-0.07 – 3.22, p	
			< 70);	with the		STEPPS condition had a mean			=0.060]; 0.96	
			younger	disorder.		of 21 additional ambulatory			[95% CI, -0.40	
			than 18 yrs;	STEPPS is		therapy contacts.			−2.32, p =	
			treated	administere					0.164]; and	
			involuntary;	d by 2					0.77 [95% CI,	
			or presented	mental					-1.08 – 2.61, p	
			an imminent	health					=0.431,	
			danger to	professional					respectively).	
			themselves	s, of who at					Odds ratios for	
			or others.	least one is a					impulsivity	
				psychothera					were (T2): 0.81	
				pist.					(95% CI, 0.26 –	
				Subjects					2.53, p=0.716);	
				assigned to					and (T3): 0.68	
				STEPPS also					(95% CI, 0.22-	
				received					2.09, p=0.501).	
				limited					Odds ratios for	
				individual					parasuicide	
				therapy. This					were (T2): 2.05	
				therapy was					(95% CI, 0.66–	
				developed					6.35, p=0.211);	
				as an					and (T3): 1.02	
				adjunct to					(95% CI, 0.35–	
				STEPPS to					2.97, p=0.974).	
				help						
				consolidate					Effect sizes	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				the newly					(standardised):	
				acquired					Effect sizes for	
				skills and to					the differences	
				stimulate					between the	
				their use. It					treatments at	
				had a					T2: SCL-90,	
				structured					0.68; BPD-40,	
				format, in					0.68;	
				which the					Psychological	
				previous					Health, 0.96.	
				STEPPS					At T3 effect	
				session was					sizes were:	
				discussed as					SCL-90, 0.56;	
				well as the					BPD-40, 0.53;	
				use of the					Overall Quality	
				learned skills					of life &	
				in everyday					General	
				life. The					Health, 0.61;	
				therapy was					Physical	
				offered					Health, 0.56;	
				every 2 wks					Social	
				during the					Relationships,	
				entire study					0.61.	
Davidson, K.	RCT	N= 106	Ago mass	period. 30 x 1 hr	TAU	Summary: The original positive	Structured Clinical	C veca	DDI 4-0.03	No
M., Tyrer,	KCI	n= 106 n= 76	Age mean (SD)	sessions of	IAU	treatment effect is maintained	Interview for DSM–	6 year follow-	BDI, d=0.02 (-0.44, 0.47)	information
P., Norrie, J.,	Level II	11- 70	$T = 32.4 \pm 9.0$	individual		over an average of 6 yrs	IV Axis II Personality		BSI, d= 0.07	on
Palmer, S. J.,		T=43	$C = 31.4 \pm 9.0$	cognitive-		follow-up: a difference of 1.26	Disorders.	ир	(-0.39, 0.52)	comorbidit
& Tyrer, H.		C= 33	C- 31.4 ± 3.4	behavioural		suicide attempts over the	Acts of Deliberate	Of the	EQ-5D	y and
(2010).		C- 33	Gender –	therapy for		following 5 yrs.	Self-Harm	people	thermometer,	prescribed
Cognitive			Female (n,	personality		Detail: Over the 6-year period,	Inventory.	who	d= -0.11 (-0.57,	drug use
therapy v.			%)	disorders		73% (n = 24/33) in the TAU	Beck Depression	originall	0.34)	was
Usual			T= (45,	(CBT-PD)		group had made at least one	Inventory (BDI).	y took	EQ-5D	obtained
treatment			83.3%)	over 1 year		suicide attempt compared	Spielberger State-	part n =	weighted HSV,	across the

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
for			C= (44,	in addition		with 56% (n = 24/43) in the	Trait Anxiety	76/106	d= -0.24 (-0.69,	trial and
borderline			84.6%)	to their		CBT-PD group (adjusted odds	Inventory (STAI).	(72%)	0.22)	follow-up,
personality				usual		ratio 0.37, 95% CI 0.10-1.38,	Brief Symptom	were	IIP-32, d=0.18	and no
disorder:			Diagnosis:	treatment		P= 0.13). In terms of self-harm	Inventory (BSI).	intervie	(-0.27, 0.64)	formal
Prospective			BPD, met			(non-suicidal) there was little	Participant's beliefs	wed at 6	SFQ, d=-0.18	assessment
6-year			criteria for			evidence of a difference	thought to be	year	(-0.63, 0.27)	of
follow-up.			at least 5			between the groups.	related to	follow-	State-Anxiety,	interrater
British			items of BPD			However, it was clear that the	personality disorder	up.	d=-0.19 (-0.64,	agreement
Journal of			using the			overall rate of self-harm	were measured		0.27)	was carried
Psychiatry,			Structured			declined in both groups.	using the Young		Suicide	out on
197(6), 456-			Clinical			For measures of depression,	Schema		attempts, d=	SCID-II
462.			Interview for			anxiety, general	Questionnaire		-0.32 (-0.77,	diagnosis.
			DSM IV Axis			psychopathology, social	(YSQ).		0.14)	Randomizat
UK			II Personality			functioning, quality of life and	Social Functioning		Trait-Anxiety,	ion was
			Disorders.			dysfunctional attitudes, there	Questionnaire		d= -0.10 (-0.56,	stratified by
			Inclusion: to			were no statistically significant	(SFQ).		0.35)	high
			enter the			differences between the	Inventory of		Youth Schema	(presence
			study,			groups during follow-up.	Interpersonal		Questionnaire,	of suicidal
			participants			At 6 yrs, 54% of the sample no	Problems – Short		d=-0.07 (-0.52,	acts in past
			had received			longer met diagnostic criteria	form 32 (IIP-32).		0.39)	12 months)
			either in-			for BPD: 56% (n = 24/43) of	Cost effectiveness			or low
			patient			the CBT–PD group and 52% (n	via quality-adjusted			(presence
			psychiatric			= 17/33) of the TAU group.	life-year (QALY),			of self
			services or			There was no difference	assessed using the			mutilation
			an			between the groups in terms	EuroQol (EQ-5D),			only in past
			assessment			of those who continued to	and the Client			12 months)
			at accident			meet diagnostic criteria (P =	Service Receipt			episodes of
			and			0.44).	Inventory (CSRI) for			self-harm,
			emergency			Defined poor outcome as any	the 6 months			using
			services or			suicide attempt in the follow-	before follow-up			randomized
			an episode			up period and examined the	interview.			permuted
			of deliberate			baseline predictors of good				blocks of
			self-harm			and poor outcome.				size 4.
		1	(either			From all the variables known				It was

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			Other							
			suicidal act			to be of prognostic importance				completed
			or self-			pre-randomisation, only				confidential
			mutilation)			having special needs at school				ly at a
			in the			was specifically associated				separate
			previous 12			with the presence of any				centre.
			months.			suicide attempts during the 6-				Therapy
						year follow-up.				adherence
			Exclusion:			Overall quality of life scores				measures
			those who			for the entire group remained				were
			had			poor and continued to lie				completed.
			evidence of			within a similar range to values				
			an organic			reported for other severe				QC
			illness,			mental health populations				1.1=A
			mental			such as severe schizophrenia				1.2=A
			impairment,			Use of hospital services				1.3=A
			alcohol or			remained high in both groups				1.4=F
			drug			with about 54% of all				1.5=A
			dependence,			individuals having received in-				1.6=A
			schizophreni			patient treatment and almost				1.7=A
			a or bipolar			two-thirds having utilised				1.8= 20%
			affective			accident and emergency (A&E)				(TX) and
			disorder. Did			treatment during the follow-				36% (C)
			not exclude			up period. With the exception				1.9= A
			those who			of in-patient and A&E				1.10=A
			were			utilisation, no particularly large				2.1 = (++)
			abusing			differences were observed				
			drugs or			between the treatment				
			alcohol			groups. However, the mean				
			providing			length of hospitalisation was				
			they did not			markedly lower in the CBT-PD				
			meet criteria			group than for the TAU group				
			for			(10.81 v. 60.97 days				
			dependence			respectively). Although a				
						similar proportion of patients				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						in both groups attended A&E,				
						both the mean and median				
						number of attendances were				
						higher in the TAU group.				
Doering, S.,	RCT	Treatment	Age mean	Transferenc		Summary: Transference	Primary:	Follow-	Any suicide	High,
Horz, S.,	Level II	n=52	(SD):	e-focused		focused psychotherapy group	Drop-outs	up: 1	attempts	differential
Rentrop, M.,			Treatment	psychothera		had fewer DSM features at 1	Suicide attempts	year	during	drop out
Fischer-		Control n=	27.46 ±6.8;	py: Two 50-		year, fewer self harm and	and self-harming		psychotherapy,	
Kern, M.,		52	Control	minute		suicide attempts, lower	behaviour: Cornell		d = -0.08	QC
Schuster, P.,			27.19 ± 7.5	sessions are		duration and less time as an	Interview for		(-0.47, 0.30)	1.1=A
Benecke, C.,				delivered		inpatient and better	Suicidal and Self-		BDI, d=0.12	1.2=A
Buchheim,			Gender – all	per week.		psychosocial functioning than	Harming Behaviour-		(-0.26, 0.51)	1.3=A
A., Martius,			females	Before		control group.	Self Report (CISSB),		Brief symptom	1.4=F
P.,				treatment		The drop-out rate was	adapted from the		inventory, d=	1.5=A
Buchheim,			Diagnosis:	starts, a		significantly higher in the	Parasuicidal History		0.08 (-0.31,	1.6=C
P. (2010).			DSM-IV BPD	treatment		experienced community	Interview		0.46)	1.7=A
Transferenc			via	contract is		psychotherapists group	Secondary:		GAF, d=0.34	1.8=
e-focused			Structured	negotiated		Detail: There were no	DSM-IV diagnostic		(-0.04, 0.73)	Treatment
psychothera			Clinical	orally with		significant differences	criteria for BPD via		Level of	17% not
py v.			Interview for	the		between the groups with	SCID		personality	assessed at
Treatment			DSM and	individual,		regard to medication at	GAF		organisation,	follow-up;
by			Structured	covering		baseline and during the 1-year	Beck Depression		d= -0.26 (-0.65,	Control
community			Interview for	general		treatment period.	Inventory		0.12)	44% not
psychothera			Personality	aspects like		The transference-focused	State-Trait Anxiety		No. of days in	assessed at
pists for			Organisation	duration and		psychotherapy group showed	Inventory		psychiatric	follow-up
borderline				payment as		a significantly higher	Brief Symptom		inpatient	1.9= A
personality			Exclusion:	well as		proportion of participants that	Inventory		during	1.10=C
disorder:			Exclusion	potential		fulfilled less than five DSM–IV	Psychiatric		psychotherapy,	2.1 = (-)
Randomised			criteria were	threats to		diagnostic borderline criteria	inpatient		d= -0.23 (-0.61,	
controlled			diagnosis of	the		after 1 year and were not	admissions - Cornell		0.16)	
trial. British			antisocial	treatment		diagnosed BPD any more	Revised Treatment		No. of DSM-IV	
Journal of			personality	specific to		(42.3% v. 15.4%, P= 0.002).	History Inventory		diagnostic	
Psychiatry,			disorder,	each patient		The transference-focused	(CRTHI)		criteria for	
196(5), 389-			schizophreni	(e.g. suicide		psychotherapy group was	Personality		BPD, d=-0.56	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
395.			a, bipolar I	attempts,		significantly superior with	organisation: STIPO		(-0.95, -0.17)	
			and II	drug misuse		regard to the number of DSM-			No. of	
Germany			disorder	or anorectic		IV diagnostic criteria,			psychiatric	
			with a major	behaviour).		psychosocial functioning,			inpatient	
			depressive,	The		personality organisation,			admissions	
			manic or	treatment		suicide attempts and number			during	
			hypomanic	focuses on		and duration of psychiatric in-			psychotherapy,	
			episode	the		patient treatments.			d= -0.47 (-0.86,	
			during the	integration		To rule out a mere dose effect			-0.08)	
			previous 6	of		of transference-focused			Self-harming	
			months,	internalised		psychotherapy, completer			during	
			substance	experiences		analyses were conducted,			psychotherapy,	
			dependency	of		controlling for the number of			d= -0.12 (-0.50,	
			(including	dysfunctiona		therapy sessions delivered.			0.27)	
			alcohol)	l early		The group differences			State-Trait	
			during the	relationships		remained significant for GAF			Anxiety X1, d=	
			previous 6	. For this		Score, number of DSM–IV			0.18 (-0.20,	
			months,	purpose, the		borderline criteria, and level of			0.57)	
			organic	actual		personality organisation. In			State-Trait	
			pathology or	relationship		both groups all but one of the			Anxiety X2, d=	
			mental	between the		individuals who attempted			0.04 (-0.35,	
			retardation.	individual		suicide dropped out of			0.42)	
				and the		treatment. Those who				
				therapist		dropped out were not				
				('transferenc		included in the completer				
				е		analysis.				
				relationship'		The results demonstrate the				
) is		significant superiority of				
				examined as		transference-focused				
				much as		psychotherapy with regard to				
				possible.		the primary outcome criteria				
				Additional		of drop-out rate and suicide				
				psychothera		attempts during the treatment				
				py not		year. The same was true for				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				allowed		the secondary outcome criteria reduction of DSM–IV diagnostic borderline criteria, psychosocial functioning, level of personality organisation and psychiatric in-patient admissions. Participants in the transference-focused psychotherapy group received 48.5 (s.d.= 34.2) sessions and those in the experienced community psychotherapists group 18.6 (s.d.= 24.0) sessions of individual psychotherapy within the 1-year study period. Future research should look at long-term follow-up, since effects of psychotherapy seem to take yrs to develop and to continue after termination of treatment Transference-therapists received more supervision and had assessment of treatment adherence. Large difference between drop out rates between groups. Control group participants attended fewer sessions than the intervention group.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Farrell, J.	RCT	N=28	Age mean:	Eight-month,	TAU	Summary: When baseline	Primary Measures:	Post-	BSI	No
M., Shaw, I.			22-52	thirty-	(individual	scores were compared to post-	Borderline	treatme	(BL/Post/FUp)	Intention to
A., &	Level II	n=16		session	psychotherap	treatment scores, the	Syndrome Index	nt and	.22/1.97*/2.81	treat
Webber, M.		(interventi	Gender: all	schema-	y of at least	improvement on all measures	(BSI) a 52 item true	6-month	*	analysis
A. (2009). A	Patients	on)	female	focused	six-months	was significant for the SFT-	or false self-report	follow-		was
schema-	(N = 32)			therapy	duration)	group, but not for the TAU	measure of BPD	up.	DIB_R	undertaken
focused	were	n=12 (TAU)	Inclusion	(SFT) group		control group. The	symptoms that		(BL/Post/FUp)	, only
approach to	randomly		criteria:	to added to		improvement was maintained	allows		.46/2.22*/2.42	treatment
group	assigned to		females	treatment-		or strengthened for the	measurement of		*	completed
psychothera	SFT-TAU		between the	as-usual		treatment group and lack of	change by			analysis,
py for	and TAU		ages of 18	(TAU)		improvement maintained for	specifying a time		SCL-90	but there
outpatients	alone.		and 65, who	individual		the control group from post to	period for the		(BL/Post/FUp)	was only
with			met criteria	psychothera		six-month follow-up	subject to base		.13/1.35/2.2*	dropout
borderline			for a BPD	py for			answers on.			from
personality			diagnosis	borderline		The TAU group showed little			GAF	treatment
disorder: a			confirmed	personality		improvement, or even some	Symptom Check		(BL/Post/FUp)	in the
randomized			by the	disorder		deterioration, over the	List-90 (SCL-90) the		0.06/1.39/3.13	control
controlled			Diagnostic	(BPD).		fourteen months of the study.	global severity			group.
trial. Journal			Interview for				score was used as a		* indicates	
of			Personality	The group-		Detail: Significant reductions in	measure of		significant	QC
behaviour			Disorders-	SFT program		BPD symptoms and global	subjective		between group	1.1 = A
therapy and			Revised and	consists of		severity of psychiatric	experience of		differences in	1.2 = A
experiment			the	thirty weekly		symptoms, and improved	general symptoms.		effect at that	1.3 = B
al			Borderline	sessions,		global functioning with large			time point.	1.4 = B
psychiatry,			Syndrome	each lasting		treatment effect sizes were	Diagnostic			1.5 = A
40(2), 317-			Index, were	90 min, over		found in the SFT-TAU group.	Interview for			1.6 = A
328.			in individual	an eight-			Borderline			1.7 =A
			psychothera	month		At the end of treatment, 94%	Personality			1.8 = There
			py of at least	period, with		of SFT-TAU compared to 16%	Disorders-Revised			was no
USA			six-months	6 patients		of TAU no longer met BPD	(DIB-R) a structured			drop out
			duration and	and 2		diagnosis criteria (p < .001).	interview that			from the TX
			would agree	therapists		. ,	assesses four			group but
			to continue	and manual		There was a significant overall	putative aspects of			25% drop
			that	based.		effect on DIB-R and specifically	BPD			out from

Country De	tudy Pesign/ evel of vidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			treatment for the course of the study. Exclusion criteria were: an Axis I diagnosis of a psychotic disorder or a below average IQ (89), as measured by the Shipley Institute of Living Scale. IQ was made an exclusion criterion because of the cognitive and reading demands of the program. Attendance at weekly individual psychothera			for impulses and interpersonal subscales.	psychopathology (affect, cognition, impulse, interpersonal) and assigns scaled severity scores. Global Assessment of Function Scale (GAFS) ratings by patients' individual therapists was used as a measure of global functioning since it includes symptom, social and occupational functioning.			the control group. 1.9= A 1.10=F 2.1 (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			was a condition of remaining in the study.							
Ingenhoven, T., Lafay, P., Rinne, T., Passchier, J., Duivenvoor den, H. (2010) Effectivenes s of pharmacoth erapy for severe personality disorders: Meta- analyses of randomized controlled trials. Journal of Clinical Psychiatry. 71(1), 14- 25. The Netherlands	SR Level 1	N = 32 included studies of which n = 21 were subject to meta-analysis.	Adults from inpatient/ outpatient settings (6 studies), inpatient only (5 studies) and outpatient settings (21 studies).	Flupentixol IM – 1 study, Thiotixene – 1 study, Trifluoperazi ne -1 study, Haloperidol – 3 studies, Olanzapine – 3 studies, Risperidone – 1 study, Aripiprazole – 1 study, Mianserine – 1 study, Tranylcypro mine- 1 study, Amitriptyline - 1 study, Desipramine - 1 study, Phenelzine – 2 studies, Fluoxetine – 4 studies,	Varied by study	Summary: No evidence for effect of antidepressants on impulse control, depressed mood, global functioning. Small effect on anxiety and anger. Mood stabilisers had a very large effect on impulsive behavioural dyscontrol, anger, anxiety. Moderate effect on depressed mood. More pronounced effect than antipsychotics on global functioning. Use is not supported nor is the combined use with antipsychotics Atypical antipsychotics do not outperform classic neuroleptics. Detail: Antipsychotics have a moderate effect on cognitive-perceptual symptoms. Antipsychotics have a moderate to large effect on anger. Antidepressants have no significant effect on impulsive-	Three symptom domains: cognitive perceptual symptoms impulsive-behavioural dyscontrol affective dysregulation: (4 subdomains) depressed mood, anxiety, anger, mood lability. Global functioning	5 – 26 weeks	Antipsychotics have a moderate effect on cognitive-perceptual symptoms (5 PC-RCTs; standardized mean difference [SMD] = 0.56) and a moderate to large effect on anger (4 PC-RCTs; SMD = 0.69) Antidepressant s have a small but significant effect on anxiety (5 PC-RCTs; SMD = 0.30) and anger (4 PC-RCTs; SMD = 0.30) and anger (4 PC-RCTs; SMD = 0.34). The	QC 1.1 = A 1.2 = A 1.3 = A 1.4 = A 1.5 = A 2.1 (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				- 1 study,		depressed mood.			antidepressant	
				Carbamazepi		Antidepressants have a small			s on global	
				ne -2		but significant effect on			functioning is	
				studies,		anxiety and anger.			negligible.	
				Lithium – 1		Mood stabilizers have a very			Mood	
				study,		large effect on impulsive			stabilizers have	
1				Valproate –		behavioural dyscontrol.			a very large	
1				3 studies,		Mood stabilizers have a very			effect on	
				Lamotrigine-		large effect on anger. Mood			impulsive-	
				1 study,		stabilizers have a very large			behavioural	
				Topiramate -		effect on anxiety. Mood			dyscontrol (6	
				3 studies		stabilizers have a moderate			PC-RCTs; SMD	
						effect on depressed mood.			= 1.51) and	
						Mood lability as an outcome			anger (7 PC-	
						measure was seldom assessed.			RCTs; SMD =	
						Mood stabilizers have a more			1.33), a large	
						pronounced effect on global			effect on	
						functioning than have			anxiety (3 PC-	
						antipsychotics.			RCTs; SMD =	
						The effect of antidepressants			0.80), but a	
						on global functioning is			moderate	
						negligible.			effect on	
						The review suggests that			depressed	
						atypical antipsychotics do not			mood (5 PC-	
						outperform the classic			RCTs; SMD	
						neuroleptics.			=0.55).	
						With respect to impulsive-			Mood	
						behavioural dyscontrol, the			stabilisers have	
						prevalent use of			a more	
						antidepressants (SSRIs) is not			pronounced	
						validated by this meta-			effect on	
						analysis, nor is the second step			global	
						of adding a traditional			functioning (3	
						antipsychotic drug.			PCRCTs; SMD =	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						Modern mood stabilizers seem to deserve a more prominent position. Prescribing SSRIs as first and second steps in the treatment of affective dysregulation seems out-dated since mood stabilizers have a more pronounced effect. Evidence-based pharmacologic treatment guidelines for severe personality disorders are still in their infancy.			0.79) than have antipsychotics (5 PC-RCTs; SMD = 0.37).	
Kramer, U., Berger, T., Kolly, S.,	RCT Level II	Treatment (MOTR) n=11	Age mean (SD) Treatment	Motive- oriented therapeutic	Summary: Reduction of interpersonal	Outcome Therapeutic outcome measured using residual gains	MINI for axis I SCID-II for axis II	Outcom es measure	Between treatment groups effect	MOTR condition had
Marquet, P., Preisig, M., De Roten, Y.,		Control n= 14	30.29±12.43 Control 31.27±8.21	relationship (MOTR, also called complement	problems was larger in the MOTR condition	on the OQ-45 questionnaire between intake and discharge did not show an overall effect. However, on the subscale	Therapist adherence: PA and MOTR scale Psychotherapeutic	d after 10 treatme nt	sizes: OQ- total d= 0.52 OQ- symptoms	significantly fewer drop- outs (2; 18%),
Despland, J.N., Caspar, F. (2011). Effects of			Gender – female Treatment 57.14%	ary therapeutic relationship) + control	than in the TAU condition Detail: TAU –	level, the domain of interpersonal problems assessed using the OQ-45 was significant, which indicates	results (subscales of symptomatic level, interpersonal relationships, and	sessions - no longer term	d= 0.32 OQ- interpersonal problems d=	compared with the control condition
motive- oriented therapeutic relationship			Control 81.81% Diagnosis	TAU – 10 sessions This group received the	10 session early-phase TAU for patients	that the reduction of interpersonal problems is larger in the MOTR condition than in the control condition.	social role): Outcome Questionnaire 45.2 (OR-45)	follow- up	0.86 OQ- social role d= 0.38	(8; 57%) The results of the
in early- phase treatment			BPD via Structured Clinical	control condition with	presenting with BPD. Therapists	No other subscale was significant in the betweengroup comparison.	Therapeutic alliance: Working		WAI Therapeutic alliance –	MOTR—as an operational
of borderline personality			Interview for DSM-IV (SCID-II)	additional MOTR and plan analysis	followed a manual-based psychiatric	Therapeutic alliance: Significant difference favouring MOTR for the	Alliance Inventory— Short Form (WAI)		patients d= 0.51 WAI	ization of the responsive

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
disorder: A			Additional	(PA). The	and	patient's ratings of therapeutic	Therapeutic impact:		Therapeutic	ness
pilot study			diagnoses:	duration,	psychotherap	alliance, but no difference was	Bern Post-Session		alliance –	concept—
of a			Treatment: 1	contents,	eutic	found for the therapist's rating	Report (BPSR)		therapist d=	are
randomized			agoraphobia	and	approach. The	of therapeutic alliance			0.32	consistent
trial. Journal			, 1 alcohol	objectives of	imperatives of	(measured on a restricted				with the
of Nervous			abuse, 1	the MOTR-	the manual	sample of treatment			Effect sizes of	hypothesis
and Mental			major	based	are (1)	completers). The patients			change in	of a
Disease,			depression,	treatments	Establishment	receiving the MOTR-			scores over	differential
199(4), 244-			1 bulimia, 1	were exactly	of reliable	treatments rated that the			time using	impact of
250.			anorexia, 1	the same as	psychiatric	therapeutic alliance was better			treatment	this
			schizoid	in the	diagnoses,	and increased more strongly,			group as a	relational-
Switzerland			personality	control	including	compared with the control			factor	technique
			disorder	condition;	comorbidities	treatments.			(coefficient,	variable on
			Control: 1	MOTR	and other	With respect to the patient's			SE):	the
			panic	"infuses" the	problem	in-session experience,			WAI patient:	interperson
			disorder, 1	process from	areas, and	comparing actual means			0.87 (0.13)	al level in
			alcohol	session 2 to	communicatio	between the groups did not			WAI therapist:	patients
			abuse, 2	10; no	n of this	yield any significant difference.			0.70 (0.67)	presenting
			major	sessions	information	However, the quality of the			BPSR-P	with BPD.
			depression,	were added.	to the patient;	therapeutic relationship, as			Resource	This pilot
			1	MOTR is	(2)	rated by the patient, increased			activation 1:	study
			somatoform	implemente	Establishment	more strongly over the course			0.05 (0.32)	showed an
			disorder, 1	d after the	of psychiatric	of the MOTR treatment,			BPSR-P	excellent
			paranoid	intake	anamnesis;	compared with the control			Resource	feasibility
			personality	session	(3)	condition. All the other			activation 2:	of an add-
			disorder	which serves	Identification	subscales of the BPSR-P did			0.17 (0.28)	on RCT
				the therapist	of the main	not differ between the groups			BPSR-P	design on
			Exclusion:	as data for	problems to	with regard to the slope over			Contentment:	an
			Inclusion	the	be treated	time.			0.47 (0.32)	individualiz
			criteria were	establishme	and				BPSR-P	ed
			a main	nt of the PA	establishment				Therapeutic	responsive
			diagnosis of	and the	of treatment				relationship:	ness
			BPD (APA,	ensuing	focus; (4)				0.59 (0.29)	procedure,
			1994), being	MOTR.	Definition of				BPSR-P	implement

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			between 18		short-term				Problem	ed in early-
			to 60 yrs old	PA, an	objectives and				actuation 0.32	phase
			and	integrative	general				(0.35)	treatment
			speaking	method	enhancement				BPSR-P	for BPD.
			French;	serving case	of motivation;				Mastery: 0.22	Focus on
			exclusion	conceptualiz	(5)				(0.27)	process
			criteria were	ation and	Identification				BPSR-P	variables
			an organic	the ensuing	of and dealing				Clarification:	rather than
			disorder or a	relational-	with				0.22 (0.30)	broader
			persistent	technique	treatment-					outcome
			substance	variable of	interfering					variables
			abuse/depe	the MOTR.	problems; and					
			ndence	The main	(6)					
			which might	focus of PA	Formulation					QC
			affect brain	according to	of relational					1.1=A
			function	Caspar is the	interpretation					1.2=B
			(memory,	instrumental	s of core					1.3=A
			level of	ity of	conflictual					1.4=F
			consciousne	behaviour	themes. One					1.5=A
			ss, cognitive	and	session per					1.6=A
			abilities) and	experience:	week was					1.7=B
			a psychotic	based on the	given; if					1.8=Treatm
			disorder	patient's	necessary,					ent: 18%
			implying	verbal, and	short-term					drop out;
			pronounced	in particular,	inpatient					Control
			break in	nonverbal	treatment					57% drop
			reality	behaviour,	was					out;
			testing	which are	organized, as					Intention to
			(chronic or	manifest in-	was adjunct					treat
			intermittent)	and	pharmacother					analyses
			, such as	between	ару					conducted
			schizophreni	sessions, the						1.9= B
			a, delusional	therapist						1.10=E
			disorder,	makes						2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			bipolar affective disorder I, an acute risk of suicide or severe cognitive impairment.	inferences about the implied plans and motives, answering the question "Which conscious or unconscious purpose could underlie a particular aspect of an individual's behaviour or experience? "						
Lieb, K., Vollm, B., Rucker, G., Timmer, A., Stoffers, J.M. (2010) Pharmacoth erapy for borderline personality disorder: Cochrane systematic review of randomised	SR Level I	N= 27 studies Twenty- seven trials were included in which first and second generation antipsycho tics, mood stabilisers, antidepres	Participants were adults from mostly outpatient settings. There was a mix of male and female participants ranging from 16 – 314 with 1714 participants in total.	Olanzapine vs placebo – 6 studies, Carbamazepi ne vs placebo – 1 study, Valproate semisodium vs placebo – 2 studies, Thiothixene vs placebo – 1 study, Omega 3	Varied by study	Summary: Little evidence for effectiveness of antidepressants. There were positive effects for valproate, lamotrigine and topiramate but not carbamazepine. Haloperidol reduced anger, flupenthixol reduced suicidal behaviour, aripiprizole reduced pathology. Omega 3 fatty acids may reduce depressive symptoms but few studies. Detail: First generation antipsychotics – The	Primary outcomes were overall disorder severity as well as specific core symptoms. Secondary outcomes comprised associated psychiatric pathology and drug tolerability	Study duration s ranged from 5 weeks to 24 weeks, with a mean duration of approxi mately 84 days (s.d.=	Standardised mean difference (SMD 95% CI), standardised mean change (SMC) or risk ratio (RR, 95% CI) Effect sizes vs. placebo: First generation antipsychotics Haloperiodol	Authors state that the robustness of findings is low, since they are based mostly on single, small studies. QC 1.1 = A 1.2 = A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
trials. British		sants and		fatty acids vs		comparisons of first-		54.7).	for anger SMD	1.3 =A
Journal of		omega-3		placebo – 2		generation antipsychotics			-0.46 (-0.84, -	1.4 =A
Psychiatry.		fatty acids		studies,		(FGAs) with placebo yielded			0.09)	1.5 =B
196(1), 4-		were		Loxapine		significant effects for			Flupentixol	2.1 (+)
12.		tested		Chlorpromaz		haloperidol in the reduction of			decanoate for	
				ine vs		anger and flupentixol			suicidal	
UK				placebo - 1		decanoate in the reduction of			behaviour RR	
				study,		suicidal behaviour. No proof of			0.49 (0.29,	
				Topiramate		efficacy was found for			0.92) No proof	
				vs placebo –		thiothixene for any outcome.			of efficacy for	
				3 studies,		Tolerability between active			thiothixene.	
				Aripiprazole		and placebo treatment did not				
				vs placebo –		differ in any comparison.			Second-	
				1 study,		Second generation			generation	
				Ziprasidone		antipsychotics – Among			antipsychotics	
				vs placebo -		second-generation			Aripiprazole	
				1 study,		antipsychotics (SGAs),			for anger SMD	
				Fluvoxamine		aripiprazole was found to have			-1.14 (-1.73,	
				vs placebo -		both significant effects in the			-0.55), for	
				1 study,		reduction of the core			psychotic	
				Fluoxetine		pathological symptoms of BPD,			symptoms	
				vs placebo –		as investigated by one trial			SMD -1.05	
				2 studies,		with 52 participants. Six trials			(-1.64, -0.47),	
				Haloperidol		compared olanzapine with			for impulsivity	
				Phenelzine		placebo; among these were			SMD -1.84	
				sulphate vs		two large studies including			(-2.49, -1.18),	
				placebo – 1		approximately 300			for	
				study,		participants each.			interpersonal	
				Haloperidol		Unfortunately, the different			problems SMD	
				Amitriptyline		formats of result reporting			-0.77 (-1.33,	
				vs placebo –		(end-point v. change data) did			-0.20), for	
				1 study,		not allow pooling of all study			depression	
				Lamotrigine		estimates for the majority of			SMD -1.25	
				vs placebo –		outcomes. There were also			(-1.85, -0.65),	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				1 study,		statistically significant benefits			for anxiety	
				Olanzapine,		for the reduction of anxiety.			SMD -0.73	
				Fluoxetine		However, results for suicidal			(-1.29, -0.17),	
				Olanzapine +		ideation were inconsistent			for general	
				fluoxetine –		Mood stabilisers – Beneficial			severity of	
				1 study,		effects were found for the			psychiatric	
				Flupentixol		mood stabilisers valproate			pathology SMD	
				decanoate		semisodium (divalproex			-1.27 (-1.87,	
				vs placebo -		sodium), lamotrigine and			-0.67).	
				1 study,		topiramate, but not for			Olanzapine for	
				Mianserin vs		carbamazepine.			affective	
				placebo – 1		Antidepressants - There was			instability SMC	
				study.		little evidence of effectiveness			-0.16 (-0.32,	
						for antidepressant treatment.			-0.01), for	
						Other drugs – For			anger SMC	
						supplementary omega-3 fatty			-0.27 (-0.43,	
						acids, significant effects were			-0.12), for	
						found in one study for the			psychotic	
						reduction of suicidality and			symptoms SMC	
						depressive symptoms. There			-0.18 (-0.34,	
						was also an effect estimate of			-0.03), for	
						a second study for depressive			anxiety mean	
1						symptoms, but because of			change	
						different formats of reporting			difference	
						it could not be pooled with the			-0.22 (-0.41,	
						first one. However, these			-0.03), for	
						findings also tended towards			suicide	
						better results in participants			ideation SMC	
						given omega-3 fatty acids.			0.29 (0.07,	
						Tolerability and safety –			0.50), for	
						Tolerability did not differ for			suicidality SMD	
						any drug-placebo comparison,			0.15 (-0.36,	
1						i.e. drug treatment was not			0.65), self-	
						associated with a higher ratio			harm RR 1.20	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						of non-completers than was			(0.50, 2.88).	
						placebo treatment. Detailed			No significant	
						data on adverse effects were			effects for	
						available for olanzapine			ziprasidone.	
						treatment. Participants			Mood	
						treated with this drug were,			stabilisers	
						overall, no more likely to			Valproate	
						experience any adverse effect			semisodium	
						than were members of the			for	
						control group. Adverse effects			interpersonal	
						were also reported in detail			problems SMD	
						for topiramate treatment.			-1.04 (-1.85,	
						Data on the frequency of			-0.23), for	
						memory problems, trouble in			depression	
						concentrating, headache,			SMD -0.66	
						fatigue, dizziness, menstrual			(-1.31, -1.01),	
						pain and paraesthesia were			for two studies	
						also available for one RCT,			of anger SMD	
						with no significant difference			-1.83 (-3.17,	
						in frequency between the			-0.48) and SMD	
						topiramate and placebo			-0.15 (-0.91,	
						groups comparison.			0.61).	
						Drug vs drug - Two FGAs,			Lamotrigine for	
						loxapine and chlorpromazine,			impulsivity	
						were compared in one study			SMD -1.62,	
						with 80 participants.			(-2.54, -0.69)	
						Tolerability did not differ			Topiramate for	
						significantly. However, there			interpersonal	
						was no usable information on			problems SMD	
						any pathology-related			-0.91 (-1.36,	
						outcome. Two antidepressants			-0.35), for	
						were compared with the FGA			impulsivity	
						haloperidol. The tricyclic			SMD – 3.36	
						antidepressant amitriptyline		1	(-4.44, -2.27),	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						did not differ significantly from			for anger in	
						haloperidol treatment for any			males SMD	
						outcome. The monoamine			-0.65 (-1.27,	
						oxidase inhibitor phenelzine			-0.03), for	
						sulphate, however, proved to			anger in	
						be superior to haloperidol in			females SMD	
						the reduction of depression			-3.00 (-3.64,	
						and general psychiatric			-2.36), for	
						pathology, and in improving			anxiety SMD	
						mental health status as			-1.40 (-1.99,	
						investigated in one study. No			-0.81), for	
						significant effect was found for			general	
						the comparison of the SGA			psychiatric	
						olanzapine with the			pathology SMD	
						antidepressant fluoxetine for			-1.19 (-1.76,	
						any pathology related			-0.61)	
						outcome.			Antidepressant	
						Drug vs combination of drugs -			S	
						One trial tested the effects of			Amitriptyline	
						olanzapine and fluoxetine			for depression	
						separately against their			SMD -0.59	
						combination. There was no			(-1.12, -0.06).	
						significant difference			No significant	
						indicating any benefits from			effects for	
						combined treatment v.			miansein,	
						treatment with olanzapine or			fluoxetine,	
						fluoxetine alone. Tolerability			fluvoxamine or	
						did not differ significantly.			phenelzine	
						Detailed data were available			sulphate.	
						for body weight change, the			Other drugs	
						frequency of restlessness and			Omega-3 fatty	
						mild sedation. There was no			acids for	
						significant difference.			sucidality RR	
								1	0.52 (0.27,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			Other						0.95), for	
									depression RR	
									0.48 (0.28,	
									0.81) and SMD	
									-0.34 (-1.15,	
									0.46).	
									Tolerability	
									and safety ⁶	
									Olanzapine for	
									adverse events	
									RR 1.13 (1.00,	
									1.28), for	
									weight gain RR	
									1.05 (0.90,	
									1.20),	
									increased	
									appetite RR	
									2.78 (1.75,	
									4.34),	
									somnolence RR	
									2.97 (1.75,	
									5.03), dry	
									mouth RR 2.24	
									(1.08, 4.67),	
									sedation RR	
									9.23 (2.18,	
									39.12) and RR	
									1.26 (0.44,	

⁶ Please note blood measures are available but not reported here

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
									3.66).	
									Topiramate on	
									weight loss	
									SMD -0.55	
									(-0.91, -0.19).	
									Haloperidol on	
									weight gain	
									SMD -0.18	
									(-0.70, 0.34)	
									Phenelzine	
									sulphate on	
									weight gain	
									SMD 0.11	
									(-0.39, 0.61)	
									Effect sizes	
									drug vs. drug	
									comparisons	
									Phenelzine	
									sulphate	
									superior to	
									haloperidol for	
									depression	
									SMD -0.68	
									(-1.19, -0.17),	
									anxiety SMD	
									-0.66 (-1.16,	
									-0.15), general	
									psychiatric	
									pathology SMD	
									-0.53 (-1.03,	
									-0.03),	
									improving	
									mental health	
				1					status SMD	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
									0.51 (0.01, 1.01). Olanzapine had more weight gain than fluoxetine SMD 0.98 (0.20, 1.76), and more mild sedation RR 3.50 (1.23, 9.92). No significant effect sizes reported for any other drug vs. drug comparisons.	
Loew, T.H., & Nickel, M.K. (2008). Topiramate treatment of women with borderline personality disorder, part ii: An open 18- month follow-up. Journal of	RCT Level II	N=56 Topiramat e n = 28 Placebo n = 28	TG (Topiramate Group) vs PG (placebo group) Age [in yrs]: TG, 24.9 ± 5.3; PG, 25.6 ± 5.7 Ever been treated with psychothera py: TG, n = 15 [53.6%]; PG, n = 13	100mg topiramate daily. After blind was broken, participants in the intervention group continued to take topiramate.	Initially placebo controlled but after blind was broken, former placebo group received no intervention.	Summary: Topiramate - reduction in aggressive behaviour, anxiety and phobias, obsessiveness, depression, paranoia, interpersonal problems, pain Improved health and activity related measures, and affective instability No effect on psychoticism. Mild-moderate side-effects usually with initiating or increasing dose No significant change occurred on the scale that depicts	SCL-90-R SF-36 Inventory of Interpersonal Problems	10 weeks for initial blinded treatme nt period. 18 month long- term follow- up observa	Accurate effect sizes cannot be calculated (except for changes in weight) because no means were provided. Estimate of the standardised mean difference between intervention	QC 1.1=A 1.2=B 1.3=B 1.4=A 1.5=A 1.6=A 1.7=A 1.8=21.4% and 25% 1.9= A 1.10=F 2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Commen
Clinical			[46.4%]			relatively borderline		tions	and control	
Psychophar			Ever been			symptomology.		were	group for	
macology,			treated with			It is possible that topiramate		reporte	psychological	
28(3), 355-			psychophar			exerts a merely modulating		d, after	variables using	
357.			macological			effect on aggressive expansive		blinding	p value: d =	
			therapy: TG,			traits.		was	-0.71 (95% CI	
Austria/			n = 26					disconti	-0.76, -0.17)	
Germany			[92.8%]; PG,			Detail: Topiramate significantly		nued.	Standardised	
·			n = 27			reduced health-related			change in	
			[96.4%]			impediments to physical			weight	
			Ever been			activities, increased the ability			between	
			hospitalized			to engage in specific activities,			baseline and	
			for			reduced physical pain,			follow-up for	
			psychiatric			improved personal assessment			topiramate	
			disorders:			of one's own health, increased			group: d= -0.59	
			TG, n = 6			vitality, reduced restrictions in			(95% CI -0.99,	
			[21.4%]; PG,			social and vocational activities,			-0.19); and for	
			n = 7			and significantly improved the			placebo group	
			[25.0%])			emotional state of health.			d = 0.25, (95%	
			Depressive			The increased affective			CI -0.13, 0.62).	
			disorders:			stability and reduction of pain			Standardised	
			TG, n = 20			also conform to the findings of			mean	
			[71.4%]; PG,			previous studies.			difference	
			n = 21			Significant changes were seen			between	
			[75.0%]			on all scales of the SCL-90-R (P			intervention	
			Anxiety			< 0.01), except psychoticism,			and control	
			disorders:			and on the Global Severity			group for	
			TG, n = 15			Index (P < 0.01).			weight: d =	
			[53.6%]; PG,			These findings conform to			-2.06 (95% CI	
			n = 14			previous reports of clear			-2.71, -1.41)	
			[50.0%]			improvements not only in				
			Obsessive-			aggressive behaviour but also				
			compulsive			in anxiety and phobias.				
	1		disorders:		1	They also corroborate and				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			TG, n = 3			expand findings from the				
			[10.7%]; PG,			initial study on obsessiveness,				
			n = 4 [14.3%]			depression, and paranoid				
			Somatoform			ideation.				
			disorders:			On the other hand, topiramate				
			TG, n = 17			does not seem to be effective				
			[60.7%]; PG,			in treating psychoticism.				
			n = 18			In comparison to the placebo,				
			[64.3%])			topiramate resulted in				
			BPD			significant improvement on 5				
			diagnosed			scales of the German				
			by SCID.			Language Version of the				
						Inventory of Interpersonal				
						Problems.				
						Some side effects: but are mild				
						to moderate, often occurring				
						only when topiramate is				
						initiated or increased in dose.				
McMain,	RCT	Treatment	Age mean	Dialectical	General	Summary: both groups	Structured Clinical	Assesse	Risk of suicide	QC
S.F., Links,		n=90	(SD)	behaviour	psychiatric	improved on most measures,	Interview for DSM-	d at	and self-	1.1=A
P.S., Gnam,	Level II		T=29.4±9.2	therapy.	management.	except the utilization of non-	IV Axis I Disorders–	baseline	injurious	1.2=A
W.H.,		Control	C= 31.3±10.6			study treatments decreased	Patient Edition	and	episodes	1.3=A
Guimond,		n= 90		Multimodal:	Consisted of	significantly more in the DBT	International	every 4	rpb=0.89	1.4=F
T., Cardish,			Gender	Individual	case	group than in the general	Personality	months		1.5=A
R.J.,		The	Female (n,	sessions (1	management,	psychiatric management group	Disorder	over the	Symptom	1.6=A
Korman, L.,		primary	%)	hour	dynamically	Detail: The utilization of non-	Examination	1-year	severity	1.7=A
& Streiner,		goal: to	T= (81, 90%)	weekly);	informed	study treatments decreased		active	(ZRSBPD) rpb	1.8=Treatm
D.L. (2009).		eliminate	C= (84,	skills group	psychotherap	significantly more in the DBT	Treatment fidelity:	treatme	=1.13	ent 39%;
Α		behavioura	82.2%)	(2 hours	y, and	group than in the general	modality specific	nt phase		Control
randomized]	DCM III	weekly);	symptom-	psychiatric management group	adherence scales		Depression	38%
trial of		dyscontrol	DSM-IV	phone	targeted	(odds ratio = 0.52 , p = 0.002).			(BDI) rpb =1.07	1.9= A
dialectical		by helping	criteria for	coaching (2	medication	The second alles	Frequency and		A (C)	1.10=F
behaviour		patients	BPD via	hours	management.	The mean adherence scores	severity of suicidal		Anger (State-	2.1 = (+)
therapy	ĺ	develop	Structured	weekly).		for essential interventions	and non-suicidal		Trait Anger	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
versus		more	Clinical		Individual	were significantly greater than	self-injurious		Expression	
general		effective	Interview	Consultation	sessions (1	the mean adherence score for	behaviour episodes:		Inventory -	
psychiatric		coping	Inclusion:	team for	hour weekly)	proscribed dialectical	Suicide Attempt		Anger out) rpb	
managemen		strategies.	Patients had	therapists	including	behaviour therapy items	Self-Injury Interview		=0.32	
t for			to meet	mandated (2	medication	across all time points.	Borderline			
borderline			DSM-IV	hours	management		symptoms: Zanarini		Health-related	
personality			criteria for	weekly).	based on	Both groups showed	Rating Scale for BPD		QoL (EQ-5D)	
disorder.			BPD, be 18-		structured	statistically significant			rpb =0.24	
The			60 yrs of	Organized	drug	decreases in the frequency of	General symptoms:			
American			age, and	according to	algorithm.	suicidal episodes (odds ratio =	Symptom		Symptom	
journal of			have had at	a hierarchy		0.23, p = 0.01) and nonsuicidal	Checklist-90-		distress (SCL-	
psychiatry,			least two	of targets:	Therapist	self-injurious episodes (odds	Revised		90-R) rpb =0.68	
(12), 1365-			episodes of	suicidal,	supervision	ratio = 0.52, p = 0.03).				
1374			suicidal or	treatment-	meeting		State-Trait Anger		Interpersonal	
			nonsuicidal	interfering,	mandated (90	There were no b/w group	Expression		functioning	
Canada			self-injurious	and quality-	minutes	differences in the frequency of			(Inventory of	
			episodes in	of-life-	weekly).	suicidal episodes or	Inventory		Interpersonal	
			the past 5	interfering	Focus is	nonsuicidal self-injurious	Beck Depression		Problems-64)	
			yrs, at least	behaviours.	expanded	episodes.	Inventory		rpb =0.45	
			one of which		away from					
			was in the 3	Explicit focus	self-harm and	Those with any suicidal or	Inventory of			
			months	on self-harm	suicidal	nonsuicidal self-injurious	Interpersonal			
			preceding	and suicidal	behaviours.	episodes experienced a	Problems, 64-item			
			enrolment.	behaviour.		significant decrease in the	version			
					Psychodynami	medical risk over time, but				
			Exclusion:	Treatment	c approach	there was no between-group	Health-related			
			Were limited	involves:	emphasized	difference.	quality of life: EQ-			
			to having a	dialectical	the relational		5D thermometer			
			DSM-IV	strategies,	aspects and	Using mixed-effects linear				
			diagnosis of	irreverent	early	growth curve analyses,	Treatment History			
			a psychotic	and	attachment	significant decreases over the	Interview: self-			
			disorder,	reciprocal	relationships.	1-year treatment period (but	reported counts of			
			bipolar I	communicati		no between-group	the number of			
			disorder,	on style,	Disturbed	differences) were found for	hospital admissions,			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			delirium,	formal skills	attachment	the following variables:	days in bosnital			
			denrium,	training.	relationships	borderline symptoms,	days in hospital, emergency			
			mental	training.	related to	depression, interpersonal	department visits,			
			retardation	Behavioural	emotion	functioning, symptom distress,	medications, and			
			or a	strategies:	dysregulation	and anger.	outpatient			
			diagnosis of	exposure,	as a primary	and anger.	psychosocial			
			substance	contingency	deficit.	On health-related quality of	treatments.			
			dependence	managemen		life (based on the EQ-5D	ti dutinonto.			
			in the	t, diary	Involves	thermometer), both groups	Reasons for Early			
			preceding 30	cards,	attention to	reported improvements, but	Termination From			
			days; having	behavioural	signs of	these changes were not	Treatment			
			a medical	analysis.	negative	statistically significant.	Questionnaire			
			condition		transference.	, -				
			that	Patients		Based on generalized-				
			precluded	encouraged	Patients were	estimating-equation analysis,				
			psychiatric	to rely on	encouraged	participants in both groups				
			medications;	skills over	to use	showed statistically significant				
			living	pills where	medications	decreases in the total number				
			outside a 40-	appropriate	concurrently.	of emergency department				
			mile radius	(e.g.,		visits (odds ratio = 0.43,				
			of Toronto;	anxiolytics).		p<0.0001), with no statistically				
			having any			significant differences				
			serious	Tapering		between groups.				
			medical	from						
			condition	medications		Both groups demonstrated				
			likely to	was a		statistically significant				
			require	treatment		reductions in the number of				
			hospitalizati	goal.		emergency department visits				
			on within			for suicidal behaviour (odds				
			the next			ratio = 0.35, p<0.0001), with				
			year (e.g.,			no between-group differences.				
			cancer); and							
			having plans							
			to leave the							

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other province in	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			the next 2 yrs							
Schuppert, H., Giesen- Bloo, J., van Gemert, T.G., Wiersema, H.M., Minderaa, R.B., Emmelkamp , P.M., & Nauta, M.H. (2009). Effectivenes s of an emotion regulation group training for adolescentsA randomized controlled pilot study. Clinical Psychology & Psychothera py, 16(6), 467-478.	RCT Level II 4 block randomisa tion	N=43 ERT+TAU = 23 TAU=20	Age: ERT+TAU = 16.23yo; TAU = 15.9 Gender: ERT+TAU = 95.6% FM; TAU = 80% FM	Emotion Regulation Training (ERT): 17 sessions, one systems meeting and two booster sessions. The main goal of the training is to introduce alternative ways of coping with affective instability, daily stressors and psychologica I vulnerability. Reducing self-harm or harm to others is another important	Treatment as usual (TAU): medication, individual psychotherap y, systembased therapy, inpatient psychiatric care and emergency services in case of self-harm or suicidal behaviour.	Summary: BPD symptoms and internal locus of control improved over time in ERT group Detail: Repeated measure ANOVAs indicated improvement over time, measured by the total score of the BPDSI-IV (F [1,29] = 6.39; p = 0.02) (Table 3). The other primary outcome measures demonstrated no significant improvement over time (BPDSI-IV subscale affect regulation (F [1,29] = 2.06; p = 0.16) and internal locus of control as measured by the MERLC (F [1,24] = 0.49; p = 0.49)). According to the secondary outcome measures, a trend over time was found on the internalizing subscale of the YSR (F [1,23] = 4.10; p = 0.06), but no significant effect on the externalizing subscale of the YSR (F [1,24] = 2.61; p = 0.12). Repeated measure ANOVAs on the BPDSI-IV showed that there was no significant level	BPDSI-IV to assess current severity and frequency of DSM-IV BPD symptoms. The Multidimensional Emotion Regulation Locus of Control (MERLC) The Youth Self Report (YSR)	Post treatme nt	BPDSI-IV total score = 0.27 BPDSI-IV affective stability = 0.33 MERLC subscale internal locus of control =49 YSR subscale internalizing = 0.04 YSR subscale externalizing = 0.15	QC 1.1=A 1.2=A 1.3=E 1.4=B 1.5=B 1.6=B 1.7=B 1.8=6.5% drop from assessment to randomisati on; 39% loss to second assessment ERT & 15% in TAU; 1.9= D 1.10=E 2.1 = (-)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				issue. The		of change between groups for				
The				adolescents		both the total and the				
Netherlands				learn that		subscale affective stability of				
				they can		the BPDSI-IV (BPDSI-IV total				
				take more		score F [1,29] = 0.07; p = 0.79;				
				responsibilit		BPDSI-IV subscale affect				
				y for their		regulation F [1,29] = 0.24; p =				
				behaviour		0.63).				
				and realize		Other primary outcome				
				they have a		measures: significant				
				choice in		interaction effect on the				
				how to		adolescents' MERLC subscale				
				(re)act when		internal locus of control (F				
				emotionally		[1,24] = 9.16; p = 0.006).				
				distressed.		Adolescents in the ERT group				
						reported an improvement in				
						their feeling of having control				
						over their emotions, whereas				
						the adolescents in the TAU				
						alone group reported a				
						decrease of internal locus of				
						control.				
						The secondary outcome				
						measures for the adolescents				
						showed no significant effect				
						between groups, measured by				
						the YSR, internalizing and				
						externalizing subscales				
						(YSRintern F [1,23] = 0.32; p =				
						0.58; YSRextern F [1,24] =				
Stoffers, J.,	Cochrane	Study	Adult	Any drug or	Comparison	0.06; p = 0.82).	Drimary outcomes:	Variable	Altogother 20	Results are
Völlm, B.A.,				Any drug or a defined	Comparison treatments	Summary: Total BPD severity was not significantly	Primary outcomes: Overall BPD severity	variable	Altogether, 28 RCTs have	
	Systematic	samples	patients with a				•			mostly
Rücker, G.,	Review	ranged	with a	combination	were	influenced by any drug. There	Severity of single		been included,	based on

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Timmer, A.,	Level 1	from n =	formal	of drugs	classified in	was little evidence for	BPD criteria		covering 22	single study
Huband, N.,		16 to n =	diagnosis of	administere	four	effectiveness of	according to DSM		different	effect
Lieb, K.		314 in size.	BPD	d on a long-	categories:	antidepressants. There was	(avoidance of		comparisons in	estimates.
(2010)		In total,	according to	term basis	placebo;	little effect of antipsychotics	abandonment,		10 comparison	
Pharmacolo		the	DSM criteria.	(i.e. not only	• active	but olanzapine may increase	dysfunctional		categories.	Long-term
gical		included	The studies	in case of	comparator	self harming, weight gain	interpersonal			use of
intervention		studies	were	crisis only)	drug;		patterns, identity		In the presence	these drugs
s for		provided	conducted in	with the	 combination 	Detail: First-generation	disturbance,		of the	has not
borderline		data from	either the	intention to	of drugs;	antipsychotics (flupenthixol	impulsivity, suicidal		multitude of	been
personality		1742	USA (14	treat BPD	 combined 	decanoate, haloperidol,	ideation, suicidal		different	assessed.
disorder.		patients.	studies) or in	pathology.	treatment, i.e.	thiothixene); second-	behaviour, self-		comparisons	
Cochrane			Western		drug plus	generation antipsychotics	mutilating		and outcome	Conclusions
Database of			European		concomitant	(aripirazole, olanzapine,	behaviour, affective		variables, most	have to be
Systematic			countries		psychotherap	ziprasidone), mood stabilisers	instability,		results are	drawn
Reviews. 16			(12 studies)		eutic	(carbamazepine, valproate	feelings of		based on single	carefully in
(6).			5 in		treatment or	semisodium, lamotrigine,	emptiness, anger,		study findings	the light of
			Germany		counselling.	topiramate), antidepressants	psychotic paranoid		only.	several
Germany.			and/or			(amitriptyline, fluoxetine,	symptoms,			limitations
			Austria, 2			fluvoxamine, phenelzine	dissociative		The study	of the RCT
			each in the			sulfate, mianserin), and	symptoms)		sample sizes	evidence
			UK and			dietary supplementation			were rather	that
			Spain, and 1			(omega-3 fatty acid) were	Secondary		small, and	constrain
			each in			tested.	outcomes:		ranged,	applicability
			Belgium,			First-generation antipsychotics	Depression		with exception	to everyday
			Ireland and			were subject to older trials,	Anxiety		of 2 large trials	clinical
			the			whereas recent studies	General psychiatric		(Schulz 2007;	settings
			Netherlands.			focussed on second-	pathology:		N= 314;	(among
			There were			generation antipsychotics and	comprehensive		Zanarini	others,
			2			mood stabilisers. Data were	measures		2007; N of	patients'
			international			sparse for individual	Mental health		patient data	characterist
			multicentre			comparisons, indicating	status		used here:	ics and
			trials. 1 took			marginal effects for first-	Attrition		301), between	duration of
			place in 13			generation antipsychotics and	Adverse effects		16 (Hollander	interventio
			study			antidepressants.			2001) and 108	ns and

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			centres in			Adverse event data were			(Soloff 1993;	observation
			the USA,			scarce, except for olanzapine.			divided into	periods).
			South			There was a possible increase			three groups).	
			America,			in self-harming behaviour,				
			and Eastern			significant weight gain,			Therefore, the	QC
			Europe.			sedation and changes in			power to	1.1 =A
						haemogram parameters with			detect	1.2 =A
						olanzapine.			significant	1.3 =A
						A significant decrease in body			effects was	1.4 =A
						weight was observed with			quite low.	1.5 =A
						topiramate treatment.				2.1 = (++)
						All drugs were well tolerated			In addition, the	
						in terms of attrition.			overall	
						Direct drug comparisons			robustness of	
						comprised two first-generation			findings must	
						antipsychotics (loxapine vs.			be considered	
						chlorpromazine), first-			low for the	
						generation antipsychotic			majority of	
						against antidepressant			comparisons.	
						(haloperidol vs. amitriptyline;				
						haloperidol vs. phenelzine				
						sulfate), and second-				
						generation antipsychotic				
						against antidepressant				
						(olanzapine vs. fluoxetine).				
						Data indicated better				
						outcomes for phenelzine				
1						sulfate but no significant				
						differences in the other				
						comparisons, except				
						olanzapine which showed				
						more weight gain and sedation				
						than fluoxetine.				
						The only trial testing single vs.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						combined drug treatment				
						(olanzapine vs. olanzapine plus				
						fluoxetine; fluxetine vs.				
						fluoxetine plus olanzapine)				
						yielded no significant				
						differences in outcomes.				
Varghese,	SR	n = 24	Study	Included	Placebo	Summary: With a fairly good	(a) Four STAXI	8 – 10	CALCULATED	Primary
B.S., Rajeev,	Level 1	included	participants	studies were		quality of studies in the	scales - State Anger,	weeks.	weighted	search was
A., Norrish,		topirmate.	were	required to		analysis, the study came to a	Trait Anger, Anger		mean	Medline
M., A,I,.			required to	have at least		conclusion that there is	Out, Anger Control -		difference	only, also
Khusaiby,		n=5 were	be	one arm in		sufficient evidence to suggest	or any equivalent		-3.16 (-3.64 to	did
S.B.M.,		included in	aggressive	which		that topiramate is significantly	measure of		-2.68) in State	additional
(2010)		final	adults.	topiramate		effective in stabilizing trait	component or		Anger.	screening
Topiramate		analysis.	Studies	was used as		anger but appears to reduce	global response.		Limited detail	of
for anger			included	intervention.		state anger, anger-out anger-	The State Anger		to allow for	Cochrane
control: A			participants			in and hostility.	scale assesses the		effect size	and
systematic			below 18 yrs	BPD		The reduction in the scores	intensity of anger as		calculation.	PubMed
review.			of age	diagnosis = 3		was highest in borderline	an emotional state			The sample
Indian			provided	studies		personality disorder (BPD)	at a particular time.			size was
Journal of			that the	Depression		patients as compared to those	The Trait Anger			relatively
Pharmacolo			mean age of	diagnosis = 1		with low back ache.	scale measures how			small and
gy. 42(3):			participants	study		Trait Anger dropped by -2.93	often angry feelings			the
135-41.			clearly	Chronic		(-3.49 to -2.37), especially in	are experienced			percentage
_			indicated	Backache		female BPD patients. Anger- In	over time. The			of males
India			that the	diagnosis = 1		reduced more or less	Anger Expression			included is
			majority of	study		uniformly across the studies by	and Anger Control			less
			participants	Study 1 - The		-1.43 (-1.84 to -1.03). Anger-	scales assess			compared
			were adults.	study dealt		Out decreased by -2.8	relatively			to that of
			Age range	with women		(-3.19 to -2.42). This effect was	independent anger-			females.
			16-61 yrs,	aged		minimal among the male BPD	related traits: (i)			The study
			with a mean	between 20		patients.	expression of anger			duration
			age of 41	and 35 yrs		Anger Control uniformly	toward other			was
			yrs.	who were		increased across the four	persons or objects			generally
			Studies were	more		studies by 2.32 (2.00-2.64).	in the environment			only 8-10

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			conducted	susceptible		There is sufficient evidence to	(Anger-Out), (ii)			weeks,
			among	to BPD than		suggest that topiramate is	holding in or			which
			patients who	men and		significantly effective in	suppressing angry			reduced
			suffered	STAXI was		stabilizing the "trait anger"	feelings (Anger-In)			the
			from other	used as the		while reducing the "state	and (iii) controlling			incidence
			types of	primary		anger." "Anger-Out" and	angry feelings by			of adverse
			aggression,	outcome		"hostility" were significantly	preventing the			effects and
			including	measure.		reduced. "Anger-In" was the	expression of anger			the dropout
			that in BPDs.	Study 2 –		feature that was the least	toward other			rate.
				This study		affected, although this was	persons or objects			
				conducted a		significant.	in the environment			QC
				directed		This suggests that topiramate	or controlling			1.1 =B
				study for		is effective in controlling	suppressed angry			1.2 =B
				BPD in males		anger.	feelings by calming			1.3 =B
				wherein the		There was no suggestion of	down or cooling off			1.4 =B
				same		topiramate precipitating	(Anger Control).			1.5 =C
				standards		psychomorbidity.	Individuals rate			2.1 (+)
				(above) as		The studies varied in terms of	themselves on the			
				the previous		inclusion criteria such as BPD,	scales that assess			
				study in		depression and even low back	both the intensity			
				females		ache.	of their anger at a			
				were		There were separate studies	particular time and			
				applied.		for men and women.	the frequency at			
				There were			which anger is			
				22 subjects			experienced,			
				each in the			expressed and			
				topiramate			controlled.			
				and placebo			(b) Symptoms: a			
				arms.			change in self-			
				Study 3 –			reported feelings of			
				This was a			anger and			
1				10-wk study,			impulsiveness,			
				which			either an increase			
				enrolled 64]		or decrease in the			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				subjects,			frequency and			
				and grouped			severity.			
				them into			(c) Behaviour: a			
				topiramate			reduction in			
				and placebo			aggression, either			
				arms in a 1:1			to self or others; a			
				ratio.			reduction in			
				Study 4 –			impulsiveness.			
				This study						
				on an						
				unrelated						
				condition,						
				i.e. chronic						
				low back						
				pain,						
				topiramate						
				was titrated						
				from 50						
				mg/day to						
				300 mg/day						
				in 48						
				subjects. The						
				effect was						
				compared						
				with a						
				placebo						
				group.						
				Study 5 - In						
				this study 56 females with						
				BPD were randomized to receive topiramate						

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				50-200 mg/day or placebo in a 1:1 ratio						
Zanarini, M.C., & Frankenbur g, .R. (2008). A preliminary, randomized trial of psychoeduc ation for women with borderline personality disorder. Journal of Personality Disorders, 22(3), 284- 290 USA	RCT Level II	N= 50 Treatment n=30 Control n= 20	Age mean (SD) in total sample 19.3 ± 1.4 Gender – all female Diagnosis - BPD diagnosed with Diagnostic Interview for DSM-IV Personality Disorders and Revised Diagnostic Interview for Borderlines. These participants were being diagnosed for the first time. Additionally in terms of lifetime disorders,	Psychoeduca tion on BPD aetiology, phenomenol ogy, co- occurring disorders, treatment options and longitudinal course	Waitlist (took part in workshop at the end of the 12 week study)	Summary: Immediate psychoeducation after diagnosis can lead to reductions in interpersonal storminess and general impulsivity. This may be because increased knowledge may be more useful in helping people control behaviour rather than affects or cognition. Detail: No significant difference in BPD symptoms on ZAN-BPD between groups over time. The mean scores of the groups as a whole declined significantly over time. Declines in interpersonal storminess and general impulsivity (not counting self-mutualisation or suicide) were found to be significantly greater among those in the immediate treatment group than the waitlist. There was no significant difference in SDS impairment ratings between groups. In vocational or social functioning over time. There	Structured Clinical Interview for DSM-IV Axis I disorders Zanarini Rating Scale for DSM-IV BPD (ZAN-BPD) Sheehan Disability Scale (SDS) Knowledge of aspects of BPD	12 weeks	Between group standardised mean differences, d (95% CI): Two forms of impulsivity, d = -0.40 (-0.97, 0.174) Stormy relationships, d = -0.381 (-0.952, 0.190) Other details not reported to calculate effect sizes	QC 1.1=B 1.2=B 1.3=C 1.4=F 1.5=A 1.6=A 1.7=A 1.8=no drop out 1.9= A 1.10=F 2.1 = (+)

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect Size	Comments
	Level of		Gender					follow-		
	Evidence		Diagnosis					up		
			Other							
			78% met			was a trend for vocational but				
			criteria for a			not social functioning to				
			mood			improve over time for the				
			disorder,			group taken as a whole.				
			40% met			Knowledge of BPD increased				
			criteria for a			(6% answered 6+ questions at				
			substance			baseline but 78% answered 6+				
			use disorder,			correctly after)				
			28% met							
			criteria for							
			an anxiety							
			disorder and							
			50% met							
			criteria for							
			an eating disorder.							
			disorder.							
			Exclusion:							
			current							
			psychiatric							
			treatment,							
			met criteria							
			for lifetime							
			/current							
			schizophreni							
			a,							
			schizoaffecti							
			ve disorder							
			or bipolar 1							
			or current							
			substance							
			dependence							
			(except							
			nicotine)							

Clinical Question 7. Which psychological therapies are most effective? (CBT, mentalisation, behaviour therapy, psychodynamic, CAT, group therapy, family therapy, schema-focused therapy, transference-focused and DBT, miscellaneous)

NICE Guideline summary

There is very little evidence for the efficacy of individual psychological interventions in the treatment of people with BPD because almost all studies are uncontrolled. The RCT evidence showed some weak evidence that Cognitive Analytical Therapy (CAT) (in young people) and STEPPS may help to improve general functioning, and reduce self-harm and suicide. The effect size for self-harm and suicide outcome was not quite statistically significant for CAT, which was compared with a manualised treatment and 'good clinical practice'. Other outcomes from the studies of CAT and STEPPS, and outcomes from RCTs of other therapies (Cognitive behavioural therapy (CBT), schema-focused psychotherapy and individual dynamic psychotherapy), did not show any benefit of treatment. Data from the study of transference-focused psychotherapy were not extractable so effect sizes could not be calculated and the study was excluded from the analysis. It should also be noted that the studies had few outcomes in common making the dataset as a whole hard to evaluate. The non-RCT evidence suggests that individual psychological interventions are acceptable to people with borderline personality disorder. They showed generally positive outcomes (based on authors' conclusions from statistical significance testing rather than calculating effect sizes from extracted data), which need to be tested against control conditions in randomised trials before firm conclusions about the efficacy of these treatments can be drawn.

Table for The Clinical Question: Psychological treatments (Source - Appendix 16: Characteristics Table for The Clinical Question: Psychological treatments)

CAT vs TAU (manualised good clinical practice)	CHANEN 2008
CBT (non-comparative)	HENGEVELD1996
CBT+TAU vs TAU	DAVIDSON2006
Cognitive analytic therapy (noncomparative)	RYLE2000
Cognitive therapy (non-comparative)	BROWN2004
Cognitive therapy vs Rogerian supportive therapy	COTTRAUX2009
day treatment followed by outpatient group psychotherapy	WILBERG1998
DBT (Dialectical Behavioural Therapy)	HARLEY2007

DBT (non comparative)	ALPER2001
	BARLEY1993
	CUNNINGHAM2004
	LANIUS2003
	MCQUILLAN2005
	PRENDERGAST2007
DBT vs CCT (control)	TURNER2000
DBT vs CTBE	LINEHAN2006

DBT vs CVT+12 step	LINEHAN2002
DBT vs TAU	KOONS2001
	LINEHAN1991
	LINEHAN1999
	VANDENBOSCH2002
DBT vs TFP vs SPT	-
DBT vs Waitlist	BOHUS2004
	CARTER unpub
IGP vs IDP	MUNROEBLUM1995
intensive inpatient treatment (noncomparative)	GABBARD2000
IPT (non-comparative)	MARKOWITZ2006
IPT vs CBT	-
MACT + TAU vs TAU	WEINBERG2006
MACT vs TAU	TYRER2003
MBT (noncomparative)	ANDREA unpub
Partial hospitalisation vs standard psychiatric care	BATEMAN1999

Psychoanalytically-oriented psychotherapy (non-comparative)	LOFFLERSTASTKA2003
	STEVENSON2005
Psychoanalytic-interactional therapy (non-comparative)	LEICHSENRING2007
Schema focused approach	FARRELL 2009
Schema therapy (non-comparative)	NORDAHL2005
SFT vs TFP	GIESENBLOO2006
Social Problem Solving + brief psychoeducation vs Waitlist	-
control	
SSRIs plus IPT	BELLINO2005
STEPPS (non-comparative)	BLUM2002
STEPPS + TAU vs TAU	BLUM2008
TFP vs DBT vs SPT	CLARKIN2004

Updated search

Summary

Interpretation of the updated search for Q7 should be made with caution as many studies were conducted prior to 2008 and more recent studies often test more complex clinical questions, or measure specific outcomes, beyond efficacy or effectiveness. Refer to the meta-analysis for Q6 for greater detail and assistance with interpretation. This question should be considered in conjunction with the NICE guideline summary.

Treatment completion rates are good for most types of treatment. Most treatments showed positive effects but many had mixed results with both the treatment and control groups improving. Psychoanalytic/dynamic therapies showed good outcomes the only recent systematic review of psychological interventions for BPD.

Summary Table

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented therapies
Barnicot, K., Katsakou, C., Marougka, S., Priebe, S. (2011) Treatment completion in psychotherapy for borderline personality disorder - a systematic review and meta- analysis. Acta Psychiatrica Scandinavica; 23(5):327-38	+	Treatments under 12 months: 53- 100% completion (14 studies) Treatments over 12 months: 36- 89% (14 studies)	Treatments under 12 months: 100% (1 study) Treatments over 12 months: 73-85% (2 studies)	Treatments under 12 months: no studies Treatments over 12 months: 69-75% (2 studies)	Treatments under 12 months: 48- 92% completion (4 studies) Treatments over 12 months: no studies	Treatments under 12 months: no studies Treatments over 12 months: 88% (1 study)		Treatments under 12 months: no studies Treatments over 12 months: 49-71% (3 studies)
Carter, G.L., Willcox, C.H., Lewin, T.J., Conrad, A.M., & Bendit, N. (2010). Hunter DBT project: Randomized controlled trial of dialectical behaviour therapy in women with borderline personality disorder. The Australian and New Zealand journal of psychiatry, (2), 162-173.	++	No difference btw DBT, WL and TAU+WL on any measures						
Cottraux, J., Note, I.D., Boutitie, F., Milliery, M., Genouihlac, V., Yao, S.N., Note, B., Mollard, E.,				CT reduced hopelessness and impulsivity				

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented
								therapies
Bonasse, F., Gaillard, S.,				at 24 weeks and				
Djamoussian, D., De Mey				general				
Guillard, C., Culem, A. &				psychopatholog				
Gueyffier, F. 2009. Cognitive				y at 104 weeks.				
Therapy versus Rogerian				No other				
Supportive Therapy in				differences				
Borderline Personality				were found.				
Disorder. Psychotherapy and								
Psychosomatics, 78, 307-316.								
Cognitive Therapy								
Rogerian Supportive Therapy								
Farrell, J. M., Shaw, I. A., &								
Webber, M. A. (2009). A								
schema-focused approach to								
group psychotherapy for								
outpatients with borderline								
personality disorder: a								
randomized controlled trial.								
Journal of behaviour therapy and experimental psychiatry,								
40(2), 317-328.								
40(2), 317-326.								
RCT								
Scheme-focused								
Scheme-locuseu								
Group psychotherapy								
Harned, M.S., Chapman, A.L.,	+	DBT more likely						
Dexter-Mazza, E. T., Murray, A.,		than community						
Comtois, K.A., & Linehan, M.M.		treatment to						
(2008). Treating co-occurring		reach full						
Axis I disorders in recurrently		remission for Axis						
suicidal women with borderline		I disorders						

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented therapies
personality disorder: A 2-year randomized trial of dialectical behaviour therapy versus community treatment by experts. Journal of Consulting and Clinical Psychology, 76(6), 1068-1075.								
McMain, S.F., Links, P.S., Gnam, W.H., Guimond, T., Cardish, R.J., Korman, L., & Streiner, D.L. (2009). A randomized trial of dialectical behaviour therapy versus general psychiatric management for borderline personality disorder. The American journal of psychiatry, (12), 1365-1374	++	DBT reduced use of non-study treatments. No difference btw groups on numbers of self harm or suicidal events						
Soler, J., Pascual, J.C., Tiana, T., Cebria, A., Barrachina, J., Campins, M.J., Perez, V. (2009). Dialectical behaviour therapy skills training compared to standard group therapy in borderline personality disorder: A 3-month randomised controlled clinical trial. Behaviour Research and Therapy, 47(5), 353-358.	+	DBT skills training group improved on psychopathology, Axis I symptoms and general functioning but no difference on BPD symptoms compared to standard group therapy						
Ball S.A., Maccarelli, L.M., LaPaglia, D.M., Ostrowski, M.J. (2011) Randomized trial of dual-focused vs. single-focused individual therapy for	+		Both groups improved. No benefit of Dual focused schema therapy over					

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented therapies
personality disorders and substance dependence. J Nerv Ment Dis 199(5):319-28.			individual drug counselling for people with co- occurring substance abuse and BPD					
Davidson, K. M., Tyrer, P., Norrie, J., Palmer, S.J., & Tyrer, H. (2010). Cognitive therapy v. Usual treatment for borderline personality disorder: Prospective 6-year follow-up. British Journal of Psychiatry, 197(6), 456-462.	++			CBT reduced suicide attempts compared to TAU at 6 year follow-up				
Rowe S.L, Jordan J, McIntosh V.V, Carter F.A, Bulik C.M, Joyce P.R. (2008) Impact of borderline personality disorder on bulimia nervosa. Aust N Z J Psychiatry. Dec; 42(12):1021-9.	NA			All three groups improved. Those with bulimia nervosa did not have worse outcomes compared to those who did not have bulimia nervosa				
Morey, L.C., Lowmaster, S.E., & Hopwood, C.J. (2010). A pilot study of manual-assisted cognitive therapy with a therapeutic assessment augmentation for borderline personality disorder. Psychiatry Research, 178(3), 531-535.				Manual assisted cognitive therapy (MACT) plus therapeutic assessment v MACT alone: Both groups improved but no difference				

Reference	Quality	DBT	SFT	СВТ	STEPPS	MBT	IPT	Dynamic/analytic oriented therapies
				between groups on other measures. (TA included collaborative case formulation and motivational feedback on assessment)				
Bateman, A., & Fonagy, P. (2008). 8-year follow-up of patients treated for borderline personality disorder: Mentalization-based treatment versus treatment as usual. American Journal of Psychiatry, 165(5), 631-638.	+					Those in MBT showed greater reduction in self harm and suicide, ED visits, treatment attendance. 13% v 87 of TAU still met criteria for BPD at 8 year follow-up. TAU group used more external treatments and greater length of use of medication		
Bateman, A., & Fonagy, P. (2009). Randomized controlled trial of outpatient mentalization-based treatment versus structured clinical management for borderline personality disorder. American Journal of Psychiatry, 166(12), 1355-1364.	++					Greater reductions in self harm, suicide, hospitalisation and medication use in MBT than clinical mgt. Greater increases in general functioning,		

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented therapies
						depression and social adjustment, relationships in MBT.		
Bos, E.H., Van Wel, E.B., Appelo, M.T., & Verbraak, M.J. (2010). A randomized controlled trial of a Dutch version of systems training for emotional predictability and problem solving for borderline personality disorder. Journal of Nervous and Mental Disease, 198(4), 299-304.	+				Both groups improved in measures of BPD pathology and general functioning, QoL, medication use and treatment attendance but STEPPS showed greater improvement than TAU. No differences in parasuicide measures.			
Schuppert, H., Giesen-Bloo, J., van Gemert, T.G., Wiersema, H.M., Minderaa, R.B., Emmelkamp, P.M., & Nauta, M.H. (2009). Effectiveness of an emotion regulation group training for adolescentsA randomized controlled pilot study. Clinical Psychology & Psychotherapy, 16(6), 467-478.	-				Both Emotion regulation training adapted from STEPPS and TAU improved over time but no difference was found between groups.			
Bellino, S., Rinaldi, C., Bogetto, F. (2010) Adaptation of interpersonal psychotherapy to borderline personality disorder:	+						Small sample size limits ability to draw strong conclusions but	

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented therapies
A comparison of combined							results suggest	•
therapy and single							that combined	
pharmacotherapy. Canadian							therapy was	
Journal of Psychiatry.							superior to	
55(2), 74-81.							monotherapy in	
							relieving anxiety,	
							improving	
							functioning and	
							alleviating the	
							severity of some	
							symptoms of BPD	
							during the 32	
							weeks of the trial	
Bellino, S., Zizza, M., Camilla,	+						Small sample size	
R., & Filippo, B. (2006)							does not allow	
Combined treatment of major							strong conclusions	
depression in patients with							to be drawn from	
borderline personality disorder:							this study but	
A comparison with							results suggest	
pharmacotherapy. Canadian							that combined	
Journal of Psychiatry, 51(7),							therapy	
453-460.							(Fluoxetine + IPT)	
							for BPD patients	
							with comorbid	
							depression may	
							be superior to	
							fluoxetine (+	
							clinical mgt) in	
							improving	
							symptoms of	
							depression and	
							social and	
							psychological	
							functioning	
Doering, S., Horz, S., Rentrop,	-							Transference

Reference	Quality	DBT	SFT	СВТ	STEPPS	МВТ	IPT	Dynamic/analytic oriented therapies
M., Fischer-Kern, M., Schuster, P., Benecke, C., Buchheim, A., Martius, P., Buchheim, P. (2010). Transference-focused psychotherapy v. Treatment by community psychotherapists for borderline personality disorder: Randomised controlled trial. British Journal of Psychiatry, 196(5), 389-395.								focused psychotherapy resulted in reduced BPD symptoms compared to Treatment by community psychotherapist. Higher drop out in the control group. No other differences.
Gregory, R.J., DeLucia-Deranja, E., Mogle, J.A. (2010) Dynamic deconstructive psychotherapy versus optimized community care for borderline personality disorder co-occurring with alcohol use disorders: a 30-month follow-up. J Nerv Ment Dis. 198, 292-298.	+							Dynamic deconstructive psychotherapy showed greater improvements on BPD and depressive symptoms and dissociation. Both groups improved suicidal and self harm behaviours and in heavy drinking but DDP showed greater improvement.
Gregory, R. J., Remen, A. L., Soderberg, M., & Ploutz- Snyder, R. J. (2009). A controlled trial of psychodynamic psychotherapy for co-occurring borderline	- Not enough detail to rate							Both DDP and TAU showed declines on a number of measures including suicidal/self

Reference	Quality	DBT	SFT	СВТ	STEPPS	MBT	IPT	Dynamic/analytic oriented therapies
personality disorder and alcohol use disorder: Six-month outcome. Journal of the American Psychoanalytic Association, 57(1), 199-205.								harming behaviour and intoxication but only small differences between groups.
Kramer, U., Berger, T., Kolly, S., Marquet, P., Preisig, M., De Roten, Y., Despland, J.N., Caspar, F. (2011). Effects of motive-oriented therapeutic relationship in early-phase treatment of borderline personality disorder: A pilot study of a randomized trial. Journal of Nervous and Mental Disease, 199(4), 244-250.								Patient ratings of therapeutic alliance were improved in the MOTR group compared to the TAU group but no other differences were found.

Systematic reviews

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Barnicot, K., Katsakou, C., Marougka, S., Priebe, S. (2011) Treatment completion in psychotherapy for borderline personality disorder - a systematic review and meta-analysis. Acta Psychiatrica Scandinavica; 23(5):327-38. UK	SR Level 1 Systematic Review - Only studies published between 1980 and 2009 were searched to focus the search on the new treatments that have recently been developed specifically for or adapted for treating BPD.	N = 41 Both RCT and observational studies were included.	N = 41 studies were included: participants were adults from inpatient, outpatient and forensic settings. Inpatient = 3 studies Outpatient = 3 studies Forensic = 2 studies 2 systematic reviews were completed n = 16 studies included self – harm. n = 4 studies included AOD dependence. 20 studies were female only.	MBT - mentalisation- based therapy = 1 study STEPPS - systems training for emotional predictability and problem solving = 3 studies DBT - dialectical behaviour therapy = 28 studies CBT- cognitive behavioural therapy = 2 studies TFP - transference- focused psychotherapy = 3 studies SFT - schema- focused therapy = 3	Treatment as usual	Summary: Most studies had a reasonably good completion rate (between 36-100% average 75%); there were no apparent differences between types of treatment in completion, although most studies were of DBT. Detail: Completion rates ranging from 36% to 100% - substantial between-study heterogeneity. Random effects meta-analyses yielded an overall completion rate of 75% (95% CI: 68-82%) for interventions of <12 months duration, and 71% (95% CI: 65-76%) for longer	Treatment Completion Rates Treatment Completion vs dropout	TX length ranged from 3 – 18 months.	A meta- analysis yielded an overall completion rate of 71% for interventions of 12 months or greater duration, and 75% for interventions of a shorter duration. There was a high degree of heterogeneity in completion rates between studies.	Only searched two databases – Medline and PsycINFO. The main limitation of this review is that it included eight different interventions, which were applied in a variety of treatment settings, patient groups and treatment lengths. QC 1.1 = A 1.2 = A 1.3 = B 1.4 = A 1.5 = B 2.1 (+)

studies	interventions.	
ERGT -	Eggers test for	
emotion	publication bias	
regulation	was significant for	
group therapy	both analyses (P	
= 1 study	0.01). The funnel	
1 study	plots could be	
DDP - dynamic	interpreted as	
deconstructive	suggesting that	
psychotherapy	smaller studies	
= 1 study	were more likely	
, , <u>, , , , , , , , , , , , , , , , , </u>	to be published if	
	they had a high	
	completion rate.	
	completion rate.	
	Study	
	characteristics	
	such as treatment	
	model and	
	treatment setting	
	did not explain	
	between-study	
	heterogeneity.	
	neterogeneity.	
	In individual	
	studies, factors	
	predicting dropout	
	status included	
	commitment to	
	change, the	
	therapeutic	
	relationship and	
	impulsivity, whilst	
	sociodemographics	
	were consistently	
	non-predictive.	

DBT

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Carter, G.L.,	RCT	N=60	Age mean	Modified DBT:	WL + TAU	Summary: The study found	The primary	3 and 6	BDQ days in	There are
Willcox, C.H.,	Level II		(SD):	team-based	The control	no statistically significant	outcomes	month	bed, d =-0.66	several possible
Lewin, T.J.,		Treatment	Treatment	approach	condition	differences between	(differences in	follow-	(-1.25, -0.07)	explanations
Conrad,	The	n= 27	24.5 ± 6.12;	including	was a 6-	modified DBT and waitlist	proportions and	up	BDQ days out of	given to as to
A.M., &	purpose of		Control 24.7	individual	month WL	control/TAU except for	event rates) of any		role, d = -0.43	why DBT was
Bendit, N.	the	Control n=	± 6.15	therapy, group-	for DBT	some quality of life	deliberate self-harm		(-1.01, 0.15)	not effective in
(2010).	present	33		based skills	while	measures. There were	(DSH) event; general		Days in hospital,	this study:
Hunter DBT	study was		Gender: all	training,	receiving	trends towards modified	hospital admission		d = -0.16 (-0.62,	regression to
project:	to		female	telephone	TAU	DBT in reductions in	for DSH and		0.30)	background
Randomized	compare			access to an	(TAU+WL).	hospitalisations, shorter	psychiatric admission		No. hospital	(pre-baseline)
controlled	dialectical		Diagnosis:	individual	Subjects,	lengths of stay, days in	for any reason; and		admissions, d =	levels, the
trial of	behaviour		BPD via	therapist and	both in the	bed.	mean difference in		-0.22 (-0.68,	Hawthorne
dialectical	therapy		clinical	therapist	initial DBT		length of stay for any		0.24)	effect whereby
behaviour	(DBT) and		interview by	supervision	group and in	Detail: The present study	hospitalization.		No. hospital	both groups
therapy in	the control		a psychiatrist	groups	the TAU+WL	found reductions in			presentations	improved
women with	condition		using DSM-	following the	group who	psychiatric hospitalization	Secondary outcomes		without	because of the
borderline	of		IV criteria.	model of	came to DBT	for both DBT and WL+TAU	were disability and		admission, d=	effect of being
personality	treatment		To be in the	treatment	after 6	over time but no	quality of life		0.03 (-0.43,	in a study, the
disorder. The	as usual		study,	developed by	months	significant benefit in	measures.		0.49)	potentially
Australian	plus		needed a	Linehan et al.	were	favour of DBT for the	Specific measures:		No. self-harm	powerful effect
and New	weight list		history of	The main	offered 12	binary outcome, the mean	Composite		episodes in	of being in a 6
Zealand	(WL) for		multiple	change to the	months DBT	event rate or the mean	International		previous 3	month TAU+WL
journal of	DBT		episodes of	Linehan et al.	treatment,	length of stay for those	Diagnostic Interview		months, d =	group for DBT
psychiatry,	(TAU+WL).		deliberate	model was the	although the	with an admission at the	modules: anxiety,		-0.18 (-0.64,	for the control
(2), 162-173.			self-harm, at	telephone	comparison	end-point of the trial.	depression, bipolar		0.28)	condition,
			least three	access to	between	There were no significant	disorders, alcohol		WHOQOL-BREF	beneficial
			self-reported	individual	groups was	differences in proportions	abuse and		Environmental	effects of the
			episodes in	therapists. In	restricted to	for general hospital	dependence,		domain, d= 0.43	TAU condition
			the	the present	the first 6	admission for DSH or for	substance abuse and		(-0.14, 0.99)	available in the
			preceding 12	study	months of	any psychiatric admission.	dependence		WHOQOL-BREF	Hunter region,
			months.	telephone	DBT versus	The length of stay overall,	International		Physical	modifications
				access was	TAU+WL.	or the length of stay for	Personality Disorder		domain, d= 0.69	to standard
			Exclusion:	delivered using		those with either type of	Examination		(0.11, 1.27)	DBT, the
			Exclusion	a group roster		admission was not	Questionnaire		WHOQOL-BREF	possible

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			criteria were presence of a disabling organic condition, schizophreni a, bipolar affective disorder, psychotic depression, florid antisocial behaviour, or developmen tal disability	of DBT individual therapists (not contact with each participant's individual therapist) between 8:30 a.m. and 10 p.m., and telephone contact with the local psychiatric hospital between 10 p.m. and 8:30 a.m. Treatment subjects were also assigned to the relevant skills training group, meeting weekly with the modules running in the following order: Interpersonal Effectiveness, Emotion Regulation and Distress Tolerance.		significantly different, although the DBT group tended to have shorter lengths of stay. For the per-protocol analyses, there were no significant differences for the proportion of patients with any DSH episode in 6 months, or for the number of self-harm episodes for the baseline—3 months and 3—6 months periods. There was a significant benefit in favour of DBT for days spent in bed but no significant effect for days out of role. There was a significant beneficial effect in favour of DBT, for three of the four domains of quality of life: Physical, Psychological and Environmental.	Brief Disability Questionnaire Lifetime Parasuicidal Count-2 Parasuicidal History Interview- 3 month period WHO Quality of Life- BREF version		Psychological domain, d= 0.65 (0.07, 1.23) WHOQOL-BREF Social domain, d= -0.04 (-0.60, 0.53)	inferiority of training of DBT therapists to that of those in other studies or inferior adherence to the DBT methods despite adequate training, and methodological differences. Very clear on methods of randomisation and concealment (sealed envelopes). Randomization occurred after baseline assessment. Hospitalisation data was intention to treat but rest was perprotocol. Large discrepancy in drop outs between groups.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				Each module ran for 8 weeks. Groups had a minimum of 4 members before commencemen t and a maximum of 8 members. Entry to the skills group occurred only at the commencemen t of the next skills module.						QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=B 1.7=A 1.8=47.4% (TX) and 11.4(C) 1.9= B 1.10= 2.1 = (++)
Harned, M.S., Chapman,	RCT Level II	N=101 T; n=52	Age mean: T= 29.0; C= 29.6	Dialectical Behaviour Therapy (DBT)	The CTBE condition was	Summary: There were no differences between DBT and	Structured Clinical Interview for DSM— III–R Personality	1 year (+ 4 mthly	Standardised mean differences	Data was from the Linehan et al (2006) study
A.L., Dexter-Mazza, E.T., Murray, A., Comtois, K.A., & Linehan, M.M. (2008). Treating co-occurring Axis I disorders in	Participant s were randomly assigned to condition by the participant coordinato r, who	C; n= 49	Gender: all female Diagnosis: Participants were 101 women (age 18–45) who met criteria for BPD and	vs Community Treatment by Experts (CTBE)	developed to control for expertise, treatment allegiance, availability of a clinical supervision group, prestige,	community treatment on number of Axis I disorders. But DBT were more likely to reach full remissions. Those with substance use disorders were more often abstinent. Overall, DBT and CTBE patients did not significantly differ in the	Disorders and International Personality Disorders Examination TX HX interview assessed psychotropic medications. Longitudinal Interval	assess ments during 12 mth treatm ent)	between treatment groups d (95% CI) Proportion of Axis I disorders reaching full remission, d = 0.20 (-0.24, 0.63) Proportion of	to examine the efficacy of DBT versus CTBE in treating co-occurring Axis I disorders among suicidal BPD patients. Because patients in DBT
recurrently suicidal women with borderline	used a computeri zed adaptive		reported at least two suicide attempts		general factors and assistance in finding a	proportion of Axis I disorders that reached full remission or that subsequently relapsed.	Follow-Up Evaluation (LIFE): retrospective ratings of Axis I disorders for each		fully remitted Axis I disorders that later relapsed, d =	reported fewer BPD criterion behaviours (i.e., suicide

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
personality disorder: A 2-year randomized trial of dialectical behaviour therapy versus community treatment by experts. Journal of Consulting and Clinical Psychology, 76(6), 1068- 1075 USA	minimizati on randomiza tion procedure that matched participant s on five primary prognostic variables.		and/or non- suicidal self- injury acts in the past 5 years, with at least one act in the 8- week pre- study period. BPD diagnosed by Structured Clinical Interview for DSM-III-R Personality Disorders and International Personality Disorders Examination		therapist, availability of affordable and sufficient treatment hours, and therapist gender, training, and clinical experience. Community mental health leaders nominated CTBE therapists as experts in the treatment of difficult	For specific Axis I disorders, DBT patients were significantly more likely to achieve full remission from SDD than were CTBE patients. DBT patients spent significantly more time in partial remission and less time in no remission from SDD than did CTBE patients. Survival analysis of the time to the first full remission did not indicate significant differences between treatments for any Axis I disorder. Similarly, DBT patients and CTBE patients did not	week of the study. Time line follow-back procedure: assigned weekly psychological status ratings (PSRs) for each disorder identified at pretreatment via the SCID—I. For substance dependence disorders (SDD), used the remission criteria from the Diagnostic and Statistical Manual of Mental Disorders - full remission as at least 8 consecutive weeks with minimal or no symptoms.		0.02 (-0.50, 0.54) Comparison rates of full remission (Cohen's w): Remission MDD, w = 0.2 (-0.05, 0.45) Remission Panic, w = 0.06, (0.28, 0.41) Remission PTSD, w = 0.12 (-0.18, 0.42) Remission other anxiety disorders, w = 0.08 (-0.25, 0.41) Remission SDD, w = 0.55 (0.17, 0.93) Remission	attempts) and less psychotropic medication use during the study than did CTBE patients (Linehan et al., 2006), they also examined whether these variables explained any significant group differences in Axis I disorder remission. QC 1.1=A 1.2=A 1.3=B 1.4-B
			Exclusion: Exclusion criteria were (a) schizophreni a, schizoaffecti ve disorder, bipolar disorder, psychotic		difficult patients. CTBE therapists excluded who self-identified as cognitive or behavioural in orientation.	significantly differ in rates of relapse for any Axis I disorder. DBT patients with SDD reported a significantly greater proportion of drug- and alcoholabstinent days across time than did CTBE patients with SDD.	Proportion of days abstinent from drugs and alcohol during treatment and follow-up measured via TLFB.		Eating Disorder, w = 0.12 (-0.39, 0.63) Remission All disorders combined, w = 0.08 (-0.14, 0.3) Time spent in not remission of SDD, d = 1.15 (0.07, 2.11). No other effect	1.4=B 1.5=A 1.6=B 1.7=A 1.8=All were analysed in intention-to-treat but: 30% treatment dropped out of treatment/lost to follow-up;

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			disorder not otherwise specified, or mental retardation; (b) a seizure disorder requiring medication; (c) a mandate to treatment; or (d) the need for primary treatment for another debilitating condition.			DBT and CTBE patients with SDD did not significantly differ in the number of BPD criteria met or in use of psychotropic medication.			sizes were significant for time spent in full, partial or no remission for any disorder. Rate of relapse was also not significant. No. of BPD criteria met, d = 0.16 (-0.95, 1.24). Use of psychotropic medications, d = 0.79 (-0.24,1.73)	71% control dropped out/lost to follow-up 1.9= A 1.10=F 2.1 = (+)
McMain, S.F., Links,	RCT	Treatment n=90	Age mean (SD)	Dialectical behaviour	General psychiatric	Summary: DBT reduced use of non-study	Structured Clinical Interview for DSM-IV	Assesse d at	Risk of suicide and self-	QC 1.1=A
P.S., Gnam,	Level II	Control	T=29.4±9.2 C= 31.3±10.6	therapy (DBT).	managemen	treatments. No difference	Axis I Disorders– Patient Edition	baselin	injurious	1.2=A 1.3=A
W.H., Guimond, T.,		Control n= 90	C= 31.3±10.6	Multimodal:	t.	between groups on numbers of self harm or	International	e and every 4	episodes rpb = 0.89	1.3=A 1.4=F
Cardish, R.J.,			Gender	Individual	Consisted of	suicidal events	Personality Disorder	months	0.03	1.5=A
Korman, L.,		The	Female (n,%)	sessions (1 hr	case		Examination	over	Symptom	1.6=A
& Streiner,		primary	T= (81, 90%)	weekly); skills	managemen	Detail: The utilization of		the 1-	severity	1.7=A
D.L. (2009) A		goal: to	C= (84,	group (2 hrs	t,	non-study treatments	Treatment fidelity:	year	(ZRSBPD) rpb =	1.8=Treatment
randomized		eliminate	82.2%)	weekly); phone	dynamically	decreased significantly	modality specific	active	1.13	39%; Control
trial of		behaviour		coaching (2 hrs	informed	more in the DBT group	adherence scales	treatm		38%
dialectical		al	DSM-IV	weekly).	psychothera	than in the general		ent	Depression	1.9= A
behaviour		dyscontrol	criteria for	Consultation	py, and	psychiatric management	Frequency and	phase	(BDI) rpb = 1.07	1.10=F
therapy		by helping	BPD via	team for	symptom-	group (odds ratio = 0.52, p	severity of suicidal			2.1 = (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
versus general psychiatric managemen t for borderline personality disorder. The American journal of psychiatry, (12), 1365- 1374 Canada		patients develop more effective coping strategies.	Structured Clinical Interview Inclusion: Patients had to meet DSM-IV criteria for BPD, be 18–60 yrs of age, and have had at least two episodes of suicidal or nonsuicidal self-injurious episodes in the past 5 yrs, at least one of which was in the 3 months preceding enrolment. Exclusion: Were limited to having a DSM-IV diagnosis of a psychotic disorder,	therapists mandated (2 hrs weekly). Organized according to a hierarchy of targets: suicidal, treatment- interfering, and quality-of-life- interfering behaviours. Explicit focus on self-harm and suicidal behaviour. Treatment involves: dialectical strategies, irreverent and reciprocal communication style, formal skills training. Behavioural strategies: exposure, contingency	targeted medication managemen t. Individual sessions (1 hour weekly) including medication managemen t based on structured drug algorithm. Therapist supervision meeting mandated (90 minutes weekly). Focus is expanded away from self-harm and suicidal behaviours. Psychodyna mic approach, emphasized	= 0.002). The mean adherence scores for essential interventions were significantly greater than the mean adherence score for proscribed dialectical behaviour therapy items across all time points. Both groups showed statistically significant decreases in the frequency of suicidal episodes (odds ratio = 0.23, p = 0.01) and nonsuicidal self-injurious episodes (odds ratio = 0.52, p = 0.03). There were no between group differences in the frequency of suicidal episodes or nonsuicidal self-injurious episodes. Those with any suicidal or nonsuicidal self-injurious episodes experienced a significant decrease in the medical risk over time, but there was no betweengroup difference.	and non-suicidal self- injurious behaviour episodes: Suicide Attempt Self-Injury Interview Borderline symptoms: Zanarini Rating Scale for BPD General symptoms: Symptom Checklist— 90—Revised State-Trait Anger Expression Inventory Beck Depression Inventory Inventory of Interpersonal Problems, 64-item version Health-related quality of life: EQ-5D thermometer Treatment History Interview: self- reported counts of the number of hospital admissions, days in hospital, emergency department visits,		Anger (State-Trait Anger Expression Inventory - Anger out) rpb = 0.32 Health-related QoL (EQ-5D) rpb = 0.24 Symptom distress (SCL-90-R) rpb = 0.68 Interpersonal functioning (Inventory of Interpersonal Problems-64) rpb = 0.45	
			bipolar I	management,	the	Using mixed-effects linear	medications, and			

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length	Effect	Comments
Country	Design/		Age					of	Size	
	Level of		Gender					follow-		
	Evidence		Diagnosis					up		
			Other							
			disorder,	diary cards,	relational	growth curve analyses,	outpatient			
			delirium,	behavioural	aspects and	significant decreases over	psychosocial			
			dementia, or	analysis.	early	the 1-year treatment	treatments.			
			mental		attachment	period (but no between-	Reasons for Early			
			retardation	Patients	relationships	group differences) were	Termination From			
			or a	encouraged to	. Disturbed	found for the following	Treatment			
			diagnosis of	rely on skills	attachment	variables: borderline	Questionnaire			
			substance	over pills	relationships	symptoms, depression,				
			dependence	where	related to	interpersonal functioning,				
			in the	appropriate	emotion	symptom distress, and				
			preceding 30	(e.g.,	dysregulatio	anger.				
			days; having	anxiolytics).	n as a					
			a medical		primary	On health-related quality				
			condition	Tapering from	deficit.	of life (based on the EQ-5D				
			that	medications	Involves	thermometer), both				
			precluded	was a	attention to	groups reported				
			psychiatric	treatment goal.	signs of	improvements, but these				
			medications;		negative	changes were not				
			living		transference	statistically significant.				
			outside a 40-		. Patients					
			mile radius		were	Based on generalized-				
			of Toronto;		encouraged	estimating-equation				
			having any		to use	analysis, participants in				
			serious		medications	both groups showed				
			medical		concurrently	statistically significant				
			condition			decreases in the total				
			likely to			number of emergency				
			require			department visits (odds				
1			hospitalizati			ratio = 0.43, p<0.0001),				
			on within			with no statistically				
			the next year			significant differences				
			(e.g.,			between groups.				
			cancer); and							
			having plans			Both groups demonstrated				
		1	to leave the			statistically significant		1		

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			province in the next 2 yrs.			reductions in the number of emergency department visits for suicidal behaviour (odds ratio = 0.35, p<0.0001), with no between-group differences.				
Soler, J., Pascual, J.C., Tiana, T., Cebria, A., Barrachina, J., Campins, M.J., Perez, V. (2009). Dialectical behaviour therapy skills training compared to standard group therapy in borderline personality disorder: A 3-month randomised controlled clinical trial. Behaviour Research	RCT Level II	Treatment n = 29 Control n = 30	Age mean (SD) T = 28.45 ±6.55 C = 29.98±5.63 Gender Female (n,%) T = (23, 79.3%) C = (26, 86.7%) Diagnosis: BPD via Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II) and the Revised Diagnostic Interview for	Dialectical behaviour therapy - Skills training (DBT- ST) DBT-ST and SGT, consisted of thirteen psychotherapy sessions of 120 min each, 2 therapists (a male and a female) for each group, in groups of 9–11 participants. The DBT format used was adapted from the standard version, applying one of the four modes of intervention:	Standard group therapy (SGT) The SGT format was oriented to provide a relational experience, allowing people with BPD to share their characteristic difficulties. Prominent techniques used were interpretation (although this was not used systematicall y),	Summary: DBT skills training group improved on psychopathology, Axis I symptoms and general functioning but no difference on BPD symptoms compared to SGT Detail: No significant differences of mean number of attended sessions between the two groups. DBT-ST group showed a significant improvement in more psycho- pathology scales. DBT-ST group showed a greater decrease in depression, anxiety and general psychiatric symptoms compared with the SGT group. Regarding the SCL90-R,	BPD core symptoms: Clinical Global Impression-BPD (CGI-BPD) Hamilton Rating Scale-Depression (HRSD-17) Hamilton Rating Scale-Anxiety (HRSA) Psychotic symptoms: Brief Psychiatric Rating Scale (BPRS) Psychiatric symptoms: Symptom Checklist, Revised (SCL90-R) Hostility/irritability: Buss—Durkee Inventory (BDI). Impulsivity: Barrat Inventory (BI).	13 weekly session s	Between group standardised mean differences d(95% CI) No. of medications, d = -0.16 (-0.45, 0.13) No. of non-study tre, d = -0.39 (-0.690, -0.10) HRSD-17, d = -0.98 (-1.52, -0.44) HRSA, d = -0.68 (-1.21, -0.16) BPRS, d =-0.67 (-1.19, -0.14) BDI Irritability, d = -0.61 (-1.13, -0.09) BDI Indirect Hostility, d=0.51	QC 1.1=A 1.2=A 1.3=E 1.4=B 1.5=B 1.6=A 1.7=A 1.8=Treatment: 34% drop out; Control: 63% drop out; Intention to treat analysis 1.9= A 1.10=F 2.1 = (+) Large differences in retention
and Therapy, 47(5), 353- 358.			Borderlines (DIB-R). Exclusion:	skills training. DBT-ST included all the	highlighting, exploration, clarification	HLM analysis showed statistically significant differences in the	In addition to clinical scales, they rated		(-1.03, 0.01) SCL-90-R GSI, d = -0.42 (-0.95,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Spain			Inclusion criteria consisted of: 1) meeting the DSM-IV diagnostic criteria for BPD; 2) age between 18 and 45 yrs; 3) no comorbidity with schizophreni a, drug- induced psychosis, organic brain syndrome, alcohol or other psychoactive substance dependence, bipolar disorder, mental retardation, or major depressive episode in course; 4) Clinical Global	original skills. These skills can be divided into those that promote change, interpersonal effectiveness and emotional regulation skills, and those that promote acceptance, mindfulness and distress tolerance skills. Similar to other skills training in behavioural treatments, DBT-ST includes teaching, insession practice of new skills and homework assignments to practice each skill every week. DBT-ST	and confrontation. The therapists mainly played a role of conductor in group interactions, and targeted specially nihilistic or destructive interactions, characteristic BPD interactions and those that could interfere with group functioning. SGT intervention s were led by two experienced psychodyna mic-oriented psychothera pists.	psychoticism subscale, and in the BDI irritability subscale. A greater decrease was detected in the DBT-ST condition. Both treatment conditions showed significant reductions in CGI-BPD global severity scores. However, no significant differences were displayed between groups in HLM analysis. In this measure, several specific sub-scales, such as: anger, emptiness, and affect instability, had a significantly greater reduction in DBT-ST compared to SGT. No differences were seen in the other scales (BI) or behavioural reports (number of self-harm behaviours, suicides or emergency visits) used in the study.	self-injury, suicide attempts, and visits to psychiatric emergency services		0.09) SCL-90-R Interperson, d = -0.81 (-1.34, -0.28) SCL-90-R Hostility, d = -0.34 (-0.85, 0.17) SCL-90-R Psychoticism, d = -0.58 (-1.10, -0.06) CGI-BPD Global, d = -1.02, (-1.57, -0.48) CGI-BPD Unstable rel, d = -0.29 (-0.80, 0.22) CGI-BPD Impulsivity, d = -0.62 (-1.15, -0.10) CGI-BPD Suicide, d= -0.10 (-0.61, 0.41) CGI-BPD Affect Instability, d = -1.08 (-1.63, -0.53) CGI-BPD Anger, d = -0.85 (-1.38, -0.32)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			of Severity (CGI-S) score ≥ 4; 5) no current psychothera py.	was led by two cognitive behavioural psychotherapis ts with prior experience in BPD group therapy					Emptiness, d = -0.44 (-0.95, 0.08) CGI-Global Improv-Patient, d = 0.68 (0.16, 1.21)	

Schema Therapy

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Ball, S.A.,	RCT	N=105	105 residents,	Manual-	Manual-	Summary: Both groups	Brief Symptom	6 months	There	Subjects with
Maccarelli,			81% male, mean	guided,	guided	improved. No benefit of	Inventory Global		were	personality
L.M.,	Level II	T= 54	age 26.5 yrs, 53%	weekly Dual	weekly	DFST over IDC for people	Severity Index		significant	disorders
LaPaglia,			European-	Focused	individual	with co-occurring			main	started with
D.M.,		C= 51	America, 27%	Schema	drug	substance abuse and BPD	Dysphoria,		effects for	higher
Ostrowski,			African-American	Therapy	counselling		anxiety,		BPD for BSI	psychiatric,
M.J. (2011)				(DFST)	(IDC)	Detail: Participants	depression, and		symptoms	interpersonal,
Randomized			29% current DSM-	individual	delivered	diagnosed with borderline	hostility subscales		(F [1,158]	and dysphoria
trial of dual-			IV diagnosis of	therapy	during the	PD showed significant	of Multiple-Affect		= 35.28; p	symptoms, and
focused vs.			substance	delivered	first 6	symptom reductions	Adjective		< 0.001),	both therapies
single-			dependence,	during the	months in a	during the first 3 months	Checklist (MAACL)		IIP	reduced
focused			lifetime	first 6	residential	in both therapy	Revised		problems	symptoms
individual			diagnoses:	months in a	therapeutic	conditions, however IDC			(F[1,179] =	during 6 months
therapy for			alcohol 41%,	residential	community.	showed continued	Interpersonal		23.12; p <	of residential
personality			cocaine 31%,	TC.		reductions during the	problems -		0.001), and	treatment of
disorders			cannabis 31%,		IDC	remaining 3 months,	Inventory of		MAACL	substance
and			opiates 20%.	DFST =	specifically	whereas DFST showed no	Interpersonal		dysphoria	dependence.
substance			Mean number of	integrated	focused on	further improvement.	Problems (IIP)		(F[1,163] =	
dependence			previous AOD	cognitive	addiction				12.78; p <	The size of the
. J Nerv			treatment = 2,	behavioural	and it	The three-way interaction	General Therapist		0.001).	BPD disorder
Ment Dis			mean previous	coping skills	addressed	of PD X Time X Therapy	Skills and session			sub-group was
199(5), 319-			psychiatric	for	symptoms	condition was significant	characteristics –			also small so
28.			treatment = 1.2,	substance	by providing	(F [1,428] = 7.01; p <	Adherence/Comp			results must be
			mean lifetime	use with	exposure to	0.008.	etence Rating			interpreted with
USA			criminal	targeted	various		Scale			caution.
			convictions = 7.3,	intervention	recovery	IDC resulted in more				As the study was
			mean arrests =	s for early	topics and	sustained reductions than				conducted in a
			13.7, mean	maladaptive	tools.	did DFST in psychiatric and				residential
			number of moths	affective		affective symptoms for				treatment
			incarcerated =	reactions,	IDC did not	paranoid, antisocial, and				setting, results
			16.1.	relational	target	BPD but not for non-PD				cannot be
			29.5% (n = 31)	problems,	personality	participants.				generalized to
			met Personality	and	or other	Investigators concluded				outpatient
			Diagnostic	maladaptive	psychiatric	that the value of adding				settings where

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			Questionnaire Version 4 Revised criteria for BPD. Other PDs included paranoid (54%) and antisocial (50%). 39% met no PD diagnostic criteria. 54 subjects were randomized to DFST (n = 12 BPD), 51 to IDC (n = 19 BPD).	behavioural coping styles.	disorders and had very little overlap with DFST.	dual-focus therapies for a range of co-occurring PDs and substance dependence in residential rehabilitation settings was not supported by this trial.				clients are exposed to substances. QC 1.1=A 1.2=A 1.3=A 1.4=B 1.5=A 1.6=A 1.7=B 1.8= 50% left residential rehab early 1.9=A 1.10=F 2.1 = (+)
Farrell, J.M., Shaw, I.A., & Webber, M.A. (2009). A schema-focused approach to group psychothera py for outpatients with borderline personality disorder: a randomized controlled	RCT Level II Patients (N = 32) were randomly assigned to SFT- TAU and TAU alone.	N = 28 n = 16 (interventi on) n = 12 (TAU)	Age mean: 22-52 Gender: all female Inclusion criteria were: females between the ages of 18 and 65, who met criteria for a BPD diagnosis confirmed by the Diagnostic Interview for Personality Disorders-Revised and the	8-month, 30-session schema- focused therapy (SFT) group added to treatment- as-usual (TAU) individual psychothera py for BPD. The group- SFT program consists of	TAU (individual psychothera py of at least six-months duration)	Summary: When baseline scores were compared to post-treatment scores, the improvement on all measures was significant for the SFT-group, but not for the TAU control group. The improvement was maintained or strengthened for the treatment group and lack of improvement maintained for the control group from post to sixmonth follow-up The TAU group showed	Primary Measures: Borderline Syndrome Index (BSI) a 52 item true or false self- report measure of BPD symptoms that allows measurement of change by specifying a time period for the subject to base answers on.	Post- treatmen t and six- month follow- up.	BSI (BL/Post/F Up) .22/1.97*/ 2.81* DIB_R (BL/Post/F Up) .46/2.22*/ 2.42* SCL-90 (BL/Post/F Up) .13/1.35/2. 2*	No Intention to treat analysis was undertaken, only treatment completed analysis, but there was only dropout from treatment in the control group. QC 1.1 = A 1.2 = A 1.3 = B 1.4 = B 1.5 = A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
trial. Journal of behaviour therapy and experimenta I psychiatry, 40(2), 317-328. USA			Borderline Syndrome Index and were in individual psychotherapy of at least 6-months duration and would agree to continue that treatment for the course of the study. Exclusion criteria were: an Axis I diagnosis of a psychotic disorder or a below average IQ (89), as measured by the Shipley Institute of Living Scale. IQ was made an exclusion criterion because of the cognitive and reading demands of the program. Attendance at weekly individual psychotherapy	30 weekly sessions, each lasting 90 min, over an 8-month period, with 6 patients and 2 therapists and manual based.		little improvement, or even some deterioration, over the fourteen months of the study. Detail: Significant reductions in BPD symptoms and global severity of psychiatric symptoms, and improved global functioning with large treatment effect sizes were found in the SFT-TAU group. At the end of treatment, 94% of SFT-TAU compared to 16% of TAU no longer met BPD diagnosis criteria (p < .001). There was a significant overall effect on DIB-R and specifically for impulses and interpersonal subscales.	Symptom Check List-90 (SCL-90) the global severity score was used as a measure of subjective experience of general symptoms. Diagnostic Interview for Borderline Personality Disorders-Revised (DIB-R) a structured interview that assesses four putative aspects of BPD psychopathology (affect, cognition, impulse, interpersonal) and assigns scaled severity scores. Global Assessment of Function Scale (GAFS) ratings by patients'		GAF (BL/Post/F Up) 0.06/1.39/ 3.13 * indicates significant between group differences in effect at that time point.	1.6 = A 1.7 = A 1.8 = There was no drop out from the TX group but 25% drop out from the control group. 1.9 = A 1.10 = F 2.1 (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			condition of remaining in the study.				therapists was used as a measure of global functioning since it includes symptom, social and occupational functioning.			

Other CBT

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Cottraux, J.,	RCT	N = 65	СТ	Cognitive	Rogerian	Summary: CT retained the	Clinical Global	51 patients	Not Reported	Same therapists in
Note, I.D.,	(pilot		Male n=9	therapy	supportive	patients in therapy for longer	Impression	were		both groups
Boutitie, F.,	study)	n=33 (CT)	Female n=24		therapy	than RST. At week 24, CT was	(CGI) Scale	evaluated		
Milliery, M.,		n=32 (RST)	Mean age	10 sessions		better than RST on the		at week		QC
Genouihlac,	Level II		34.3 SD 10.2	of individual	10 sessions	Hopelessness Scale, IVE scale	Hamilton	24, 38 at		1.1 = A
V., Yao, S.N.,		88 patients		1-hour	of individual	and regarding the therapeutic	Depression	week 52		1.2 = B
Note, B.,		were	RST	sessions,	1-hour	relationship. At week 104, the	Scale	and 21 at		1.3 = B
Mollard, E.,		screened:	Male n=6	over 1 year.	sessions,	CGI improvement (patient		week 104.		1.4 = B
Bonasse, F.,		13 did not	Female n=26		over 1 year.	and evaluator) was	Beck			1.5 = A
Gaillard, S.,		meet the	Mean age			significantly better in CT than	Depression	21.5%		1.6 = A
Djamoussia		inclusion	32.6 SD 8.3			in RST. High baseline	Inventory	drop out		1.7 =A
n, D., De		criteria, 10				depression and impulsivity				1.8 = 21.5%
Mey		refused to	Diagnosis			predicted dropouts.	Beck Anxiety	6 mths of		1.9= B
Guillard, C.,		enter the	using MINI				Inventory	intensive		1.10 C
Culem, A. &		study and	and			Detail: A between-group		care with 1		2.1 (+)
Gueyffier, F.		65 were	confirmed			comparison of the time spent	Hopelessness	session per		
2009.		randomise	by the			in therapy showed that	Scale	week (24		
Cognitive		d, 51	Interview for			dropouts left the study later		sessions)		
Therapy		followed	Borderline			in CT (CT: mean = 51 days, SD	Young Schema	and a		
versus		up post	Personality			= 37.4; RST: mean = 29 days,	Questionnaire	maintenan		
Rogerian		treatment.	Disorder-			SD = 32.4; Wilcoxon-Mann-	II	ce phase		
Supportive			Revised			Whitney = -2.05 ; p = 0.040).		with a		
Therapy in			(DIBR), with				Eysenck	session		
Borderline			a score of at			In the whole sample, the	Impulsivity	every		
Personality			least 8,			average time before ending	Venturesome	fortnight		
Disorder.			according to			therapy was 82 days in CT vs.	ness Empathy	over 6		
Psychothera			the			60 in RST (Wilcoxon-Mann-	(IVE)	mths (12		
py and			threshold of			Whitney = -1.5 ; p = 0.13).	Inventory	sessions).		
Psychosoma			the scale.							
tics, 78,						Using all available information				
307-316.			Exclusion			on the response criterion, the				
			criteria			odds of success were				
France			were: age			estimated to be 61% higher in				
			under 18 or			the CT group than in the RST				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			over 60 years, patients living too far from the centres, psychotic disorders with current delusions, significant drug or alcohol addiction in the foreground or antisocial behaviours.			group, a large but nonsignificant effect (OR: 1.61, 95% CI: 0.62–4.16, p = 0.32). When missing outcomes were considered as failures, the estimated treatment effect was reduced to an OR of 1.33 (95% CI: 0.60–2.96, p = 0.48). Change from baseline was significant for the IVE scale: CT mean = 0.85 (SD 1.74); RST mean = -0.67 (SD 2.87); Wilcoxon-Mann-Whitney: – 2.086, p = 0.03. The Hopelessness Scale also changed more in CT: mean = -0.50 (SD 3.73); Wilcoxon-Mann- Whitney: –2.27, p = 0.02. The therapeutic relationship was also better in CT: the therapists rated the patients more favourably in CT than in				
Davidson,	RCT	N= 106	Age mean	30 x 1 hr	TAU	RST (p = 0.04). Summary: CBT reduced	Structured	6 year	BDI, d = 0.02	No information on
K.M., Tyrer, P., Norrie, J., Palmer,	Level II	n= 76 T=43	(SD) T= 32.4 ± 9.0 C= 31.4 ± 9.4	sessions of individual cognitive-		suicide attempts compared to TAU at 6 year follow-up	Clinical Interview for DSM–IV Axis II	follow-up Of the	(-0.44, 0.47) BSI, d = 0.07 (-0.39, 0.52)	comorbidity and prescribed drug use was obtained
S.J., & Tyrer, H. (2010). Cognitive		C= 33	Gender – Female (n, %)	behavioural therapy for personality		Detail: The original treatment effect is maintained over an average of 6 yrs follow-up: a	Personality Disorders. Acts of	people who originally	EQ-5D thermometer, d = -0.11	across the trial and follow-up, and no formal

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
therapy v. Usual treatment for borderline personality disorder: Prospective 6-year follow-up. British Journal of Psychiatry, 197(6), 456- 462. UK			T= (45, 83.3%) C= (44, 84.6%) Diagnosis: BPD, met criteria for at least 5 items of BPD using the Structured Clinical Interview for DSM IV Axis II Personality Disorders. Inclusion: to enter the study, participants had received either inpatient psychiatric services or an assessment at accident and emergency	disorders (CBT-PD) over 1 year in addition to their usual treatment		difference of 1.26 suicide attempts over the following 5 yrs. Over the 6-year period, 73% (n = 24/33) in the TAU group had made at least one suicide attempt compared with 56% (n = 24/43) in the CBT–PD group (adjusted odds ratio 0.37, 95% CI 0.10–1.38, P = 0.13). In terms of self-harm (non-suicidal) there was little evidence of a difference between the groups. However, it was clear that the overall rate of self-harm declined in both groups. For measures of depression, anxiety, general psychopathology, social functioning, quality of life and dysfunctional attitudes, there were no statistically significant differences between the groups during follow-up. At 6 yrs, 54% of the sample no longer met diagnostic criteria for BPD: 56% (n = 24/43) of the CBT–PD group and 52% (n = 17/33) of the TAU group. There was no difference	Deliberate Self-Harm Inventory. Beck Depression Inventory (BDI). Spielberger State—Trait Anxiety Inventory (STAI). Brief Symptom Inventory (BSI). Participant's beliefs thought to be related to personality disorder were measured using the Young Schema Questionnaire (YSQ). Social Functioning Questionnaire (SFQ). Inventory of	took part n = 76/106 (72%) were interviewe d at 6 year follow-up.	(-0.57, 0.34) EQ-5D weighted HSV, d = -0.24 (-0.69, 0.22) IIP-32, d= 0.18 (-0.27, 0.64) SFQ, d = -0.18 (-0.63, 0.27) State-Anxiety, d = -0.19 (-0.64, 0.27) Suicide attempts, d= -0.32 (-0.77, 0.14) Trait-Anxiety, d = -0.10 (-0.56, 0.35) Youth Schema Questionnaire , d = -0.07 (-0.52, 0.39)	assessment of interrater agreement was carried out on SCID—II diagnosis. Randomization was stratified by high (presence of suicidal acts in past 12 months) or low (presence of self mutilation only in past 12 months) episodes of self-harm, using randomized permuted blocks of size 4. QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=A 1.7=A 1.8= 20% (TX) and 36% (C) 1.9= A 1.10=A 2.1 = (++)
			services or an episode of deliberate			between the groups in terms of those who continued to	Interpersonal Problems – Short form 32			

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			self-harm			meet diagnostic criteria (P =	(IIP-32).			
			(either			0.44).	Cost			
			suicidal act			Defined poor outcome as any	effectiveness			
			or self-			suicide attempt in the follow-	via quality-			
			mutilation)			up period and examined the	adjusted life-			
			in the			baseline predictors of good	year (QALY),			
			previous 12			and poor outcome.	assessed using			
			months.			From all the variables known	the EuroQol			
						to be of prognostic	(EQ-5D), and			
			Exclusion:			importance pre-	the Client			
			those who			randomisation, only having	Service			
			had			special needs at school was	Receipt			
			evidence of			specifically associated with	Inventory			
			an organic			the presence of any suicide	(CSRI) for the			
			illness,			attempts during the 6-year	6 months			
			mental			follow-up.	before follow-			
			impairment,			Overall quality of life scores	up interview.			
			alcohol or			for the entire group remained	Therapy			
			drug			poor and continued to lie	adherence			
			dependence,			within a similar range to	measures			
			schizophreni			values reported for other	were			
			a or bipolar			severe mental health	completed			
			affective			populations such as severe				
			disorder. Did			schizophrenia				
			not exclude			Use of hospital services				
			those who			remained high in both groups				
			were			with about 54% of all				
			abusing			individuals having received in-				
			drugs or			patient treatment and almost				
			alcohol			two-thirds having utilised				
			providing			accident and emergency				
			they did not			(A&E) treatment during the				
			meet criteria			follow-up period. With the				
			for			exception of in-patient and				
			dependence			A&E utilisation, no particularly				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						large differences were observed between the treatment groups. However, the mean length of hospitalisation was markedly lower in the CBT–PD group than for the TAU group (10.81 v. 60.97 days respectively). Although a similar proportion of patients in both groups attended A&E, both the mean and median number of attendances were higher in the TAU group.				
Morey, L.C., Lowmaster, S.E., & Hopwood, C.J. (2010). A pilot study of manual- assisted cognitive therapy with a therapeutic assessment augmentati on for borderline personality disorder. Psychiatry	RCT Level II	Treatment n=8 Control n= 8	Age mean (SD): Treatment 32.5±9.41; Control 29.63±8.72 Gender – female (n, %): Treatment 7 (87.5%), Control 6 (75%) Diagnosis: BPD via Diagnostic Interview for	Manual- Assisted Cognitive behaviour Therapy (MACT) + Therapeutic Assessment (TA) MACT is a 6- session, manualized therapy that targets deliberate self-harm, incorporatin	MACT alone 6 sessions	Summary: TA+MACT vs. MACT alone: Both groups improved but no difference between groups on other measures. Detail: No significant retention rate differences between conditions were observed, with four MACT condition (50%) and five TA+MACT condition (63%) participants failing to complete all six sessions of treatment. Among those who did complete treatment, significant improvements were observed in both conditions with respect to	Borderline measures Diagnostic Interview for DSM-IV Personality Disorders DIPD-IV Personality Assessment Inventory (PAI) Borderline Features scale (BOR) with four subscales (Affective Instability, Identity		Effect sizes between groups: Number of sessions attended: d = -0.16. Standardised mean difference for treatment completers: in MACT+TA: PAI-BOR d=0.95 BOR-A d=4.35 BOR-I d=0.57 BOR-N d=0.82 BOR-S d=0.52	6 of 7 completers were concurrently being treated with medications whereas only 3 of 9 non-completers were being treated with medications, suggesting that concurrent psychiatric care may promote retention in MACT QC 1.1=A 1.2=B 1.3=C
Psychiatry Research, 178(3), 531-			DSM-IV Personality	g elements of other cognitive-		reducing both borderline symptomatology and suicidal ideation.	Disturbance, Negative		BOR-S d=0.52 PAI-SUI d=1.72	1.3=C 1.4=F 1.5=A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
535.			Disorders	based		For those who completed	Relationships,		SPS d=1.37	1.6=A
			DIPD-IV.	intervention		treatment there was a	and Self-		SPS-S d=1.75	1.7=A
USA			56% of these	s for BPD.		substantial and significant	Harm)		Standardised	1.8=MACT + TA:
			individuals	In addition		main effect for change in PAI-	Personality		mean	63% failed to
			were	to the		BOR from baseline to post-	Diagnostic		difference for	completed all 6
			currently	standard		treatment. Analyses of BOR	Questionnaire		treatment	sessions of
			taking	MACT		subscales suggest a significant	(PDQ-4) —		completers: in	treatment; MACT:
			psychotropic	orientation		change in affective instability	Borderline		MACT:	50% failed to
			medication	material, the		and a moderately significant	scale		PAI-BOR	complete all 6
			but no	first session		change in self-harm. No	Suicidal		d=1.22	sessions of
			individuals	also		significant differences in	ideation:		BOR-A d=0.85	treatment
			were	included an		treatment response across	Personality		BOR-I d=0.93	1.9= B
			receiving	individualize		study groups were found for	Assessment		BOR-N d=0.31	1.10=F
			other	d		borderline features, although	Inventory		BOR-S d=0.56	2.1 = (++)
			psychosocial	collaborative		large differential changes in	Suicidal		PAI-SUI	
			intervention	assessment.		BOR-A were observed that	Ideation (SUI)		d=2.27	
			S.	This		approached significance,	Suicide		SPS d = 0.56	
				procedure		suggesting superior treatment	Probability		SPS-SI d=0.77	
			Exclusion:	included		response in the TA+MACT	Scale (SPS)			
			Inclusion	developing		group.	with four		Carry-forward	
			criteria were	questions		With regard to suicidal	subscale		effect sizes	
			scores a)	that the		ideation, participants	scores:		are also	
			N70 on PAI	client would		reported substantial and	Hopelessness,		available in	
			BOR and	like to "ask		significant decreases on both	Suicidal		the paper.	
			SUI, b) z5 on	the test		the PAI-SUI and SPS-SI. Again,	Ideation,		They are more	
			the PDQ-4	data" about		a trend for a group-by-time	Negative Self-		conservative	
			BPD, c) N70	themselves		interaction was found for SPS-	Evaluation,		than those	
			on the SPS	and the		SI, also suggesting a larger	and Hostility.		presented.	
			total and d)	articulation		improvement over time in the				
			N5 BPD	of specific,		TA+MACT group.				
			symptoms	individualize		To examine client				
			on the DIPD-	d treatment		improvement at the individual				
			IV.	goals. During		level, reliable change indices				
			Participants	the second		(RC) were computed to				
			were	session, the		determine whether the MACT				

Ref, Study Country Design Level c Eviden	f	Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
		excluded if they exhibited an active psychosis, a history of schizophreni a, or substance intoxication or withdrawal	therapist and client discussed the assessment results and motivational feedback was provided, in addition to implementin g the second MACT session. Aside from these augmentations to the first two sessions, the manual for the remainder of the treatment was identical for both conditions.		treatment significantly improved borderline symptomatology and suicidal ideation. Of the 7 participants who completed treatment, 5 (71%) showed significant reductions on PAI-BOR. With regard to suicidal symptoms, 3 of 7 participants (43%) demonstrated significant improvement on the SPS and 6 out of 7 (86%) had significant decrement in suicidal ideation as measured by the PAI-SUI. For all participants: Using carry-forward methodology to provide a more conservative estimate of changes observed, there was significant main effect for change in PAI-BOR from baseline to post-treatment. With respect to suicidal ideation, significant decreases were observed on the PAI-SUI and SPS-SI. No significant differences in treatment response across groups were found for borderline features or suicidal ideation using this more conservative carry-forward approach.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Rowe S.L, Jordan J, McIntosh V.V, Carter F.A, Bulik C.M, Joyce P.R. (2008) Impact of borderline personality disorder on bulimia nervosa. Aust N Z J Psychiatry. Dec; 42(12), 1021-9. New Zealand	Follow-up of RCT Level II Follow-up of subjects from previous RCT which evaluate d the additive efficacy of exposure -based vs. non-exposure -based behaviou ral treatmen ts to a core of cognitive behaviou r therapy	N=134 Follow-up data for 101 at 1 yr and 112 at 3 yrs	28% (n=38) met DSM-III-R criteria for BPD. Participants: women 17- 45 yrs (n=134), with a current DSM-III-R diagnosis of BN. Exclusion criteria were AN, obesity (BMI>30), severe MDD, substance use disorder, BPAD, schizophreni a, severe medical illness or complication s of BN, use psychoactive	All participants received eight sessions of cognitive therapy before being randomized to a further eight sessions of one of three forms of behavioural therapy: (i) exposure to pre-binge cues with binging being prevented (B-ERP); (ii) exposure to pre-purge cues with purging being prevented (P-ERP); or	All participants received eight sessions of cognitive therapy before being randomized to a further eight sessions of one of three forms of behavioural therapy: (i) exposure to pre-binge cues with binging being prevented (B-ERP); (ii) exposure to pre-purge cues with purging being prevented (P-ERP); or	Summary: All three groups improved. Those with bulimia nervosa (BN) did not have worse outcomes compared to those who did not have BN Detail: Women with BN and BPD did not differ significantly from the other PD and no PD groups in eating disorder symptoms and attitudes at 1 year and 3 year follow up. General and psychiatric functioning as measured on the GAF and HDRS showed improvements for all three groups at 1 year follow up. No significant differences among the groups were found at 1 year follow up. At 3 year follow up eating disorder symptoms were improved in all three groups and general psychiatric functioning did not differ among the three groups. Overall, the BPD group had the lowest rate of any eating disorder diagnoses at follow up - 35% and 24% at 1 and 3	Eating disorder symptoms and general functioning-Comprehensiv e Bulimia Severity Index (CBSI) Depression – HDRS Global Assessment of Functioning – GAF Personality traits - Temperament and character inventory (CTI)	Follow-up data were available for 101 women (75%) at 1 yr follow up and 112 (84%) at 3 yr follow up. Ninety-two participant s were available for all three time points (including baseline).	There was a significant effect for HA in the BPD (Wilks' λ =0.34, F(2,14)=13.88, p<.001, multivariate partial η 2 = 0.67) and no PD groups (Wilks' λ =0.67, F(2,34) =8.5, p<.001, multivariate partial η 2 = 0.33). SD also showed significant within-group effects in the no PD group across 3 yrs (Wilks' λ = 0.51, F(2,34)=16.36, p<.001, multivariate partial η 2 = 0.49). Despite an increase of	Overall, despite having a marginally poorer clinical presentation at pre-treatment assessment, women with BN and comorbid BPD did not have a worse eating disorder or general functioning outcome at 3 yrs after treatment than those with other or no PDs, indicating that in regard to this clinical question, the treatment for BN offered to this sample required no modification for the subjects with BPD. However the small sample size in the 3 groups may have
	for BN.		meds and unwillingnes s to undergo supervised drug wash-	(iii) relaxation training (RELAX).	(iii) relaxation training (RELAX).	yrs, respectively, compared to 45% and 31% for other PD and 38% and 36% for no PD. Differences in personality profiles between the BPD and			one standard deviation in SD, the BPD group had a smaller effect	decreased the power to detect significant differences, increasing the

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			out period.			no PD group evident at follow up were on measures of harm avoidance (HA) and self- directedness (SD).			size than the no PD group (Wilks' λ = 0.59, F(2,14) = 4.8, p<.03, multivariate partial η2 = 0.41). The other PD group had no significant within-group changes in HA or SD across 3 yrs.	likelihood of Type II error. No indication of which original group patients allocated **No checklist as was follow up to RCT no actual RCT

Mentalisation

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/	1	Age					follow-	Size	
	Level of		Gender					up		
	Evidence		Diagnosis							
			Other							
Bateman, A.,	RCT	N=41	Age and	Partial	Treatment as	Summary: Those in MBT showed	Primary: number of	2 yrs	Suicide	QC
& Fonagy, P.	Level II		gender not	hospitalisation	usual (TAU)	greater reduction in self harm	suicide attempts		attempts	1.1=A
(2008). 8-		T=22	reported.	consisting of a	consists of	and suicide, ED visits, treatment	over the whole of		total, d =1.4	1.2=B
year follow-	RCT (8 yrs			long-term	general	attendance. 13% v 87% of TAU	the 5 year post-		(0.3, 1.5)	1.3=B
up of	since	C= 19	Diagnosis:	psychoanalytic	psychiatric	still met criteria for BPD at 8 year	discharge follow-up		Zanarini	1.4=B
patients	interventio		BPD on both	ally orientated	outpatient	follow-up. TAU group used more	period. Associated		Rating Scale	1.5=B
treated for	n follow-up		Structured	treatment for	care with	external treatments and greater	outcomes were		(ZRS) for	1.6=A
borderline	reporting		Clinical	18 months.	medication	length of use of medication	service use,		BPD:	1.7=A
personality	occurrence		Interview for	Metallization	prescribed by		including		total: d = 1.8	1.8= 0%
disorder:	s since the		DSM-III-R	based	the consultant	Detail: 23% made suicide	emergency room		(0.14, 3.5),	and 18%
Mentalizatio	3 year		and	treatment	psychiatrist,	attempts in the MBT group	visits; the length		affect: d=1.1	1.9= C
n-based	follow-up).		Diagnostic	(MBT)	community	(mean attempts 0.5±0.9),	and frequency of		(0.41, 1.7),	1.10=F
treatment			Interview for	individual and	support from	contrasted with 74% of the TAU	hospitalization;		cognitive: d	2.1 = (+)
versus			Borderline	group	mental health	group (mean attempts	continuing		= 0.84 (0.3,	
treatment as			Patients.	therapy.	nurses, and	0.52±0.48), which was significant.	outpatient		1.4),	
usual.					periods of	Mean number of emergency	psychiatric care;		impulsivity:	
American			Exclusion: If	MBT by partial	partial	room visits and hospital days	and use of		d = 1.2	
Journal of			they met	hospitalization	hospital and	highly significantly favoured the	medication,		(0.59, 1.9),	
Psychiatry,			criteria for	consists of 18-	inpatient	MBT group, as did the continuing	psychological		interpersona	
165(5), 631-			schizophreni	month	treatment as	treatment profile.	therapies, and		l: d = 1.6 (1,	
638.			a, bipolar,	individual and	necessary but	During MBT group therapy, all of	community		2.3)	
			substance	group	no specialist	the experimental group but only	support.		GAF, d= 0.75	
(follow up			misuse or	psychotherapy	psychotherapy	31% of the TAU group received			(-1.9, 3.4)	
from			mental	in a partial		therapy.	Secondary:		No. of days	
Bateman A,			impairment	hospital		Over the 5-year postdischarge	1) symptom status		of	
Fonagy P.			or had	setting		period, both groups received	as assessed at a		hospitalisati	
(1999)			evidence of	offered within		around 6 months of psychological	follow-up interview		on, d = 1.5	
Effectiveness		1	organics	a structured		therapy (n.s.).	using the Zanarini		(0.36, 2.7)	
of partial			brain	and integrated		For all other treatments, the TAU	Rating Scale for		No. of	
hospitalizati		1	disorder.	program		group received significantly more	DSM-IV borderline		emergency	
on in the				provided by a		input postdischarge—3.6 yrs of	personality		room visits,	
treatment of		1		supervised		psychiatric outpatient treatment	disorder		d = 1.4	
borderline				team.		and 2.7 yrs of assertive	2) global		(0.21, 2.63)	
personality				Expressive		community support, compared	functioning as	1	No. of yrs of	1

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-	Effect Size	Comments
,	Level of		Gender					up		
	Evidence		Diagnosis							
			Other							
disorder: a				therapy using		with 2 yrs and 5 months,	measured by the		employment	
randomized				art and writing		respectively, for the MBT group.	Global Assessment		, d = 0.94	
controlled				groups is		The TAU group had an average of	of Functioning		(0.29, 1.6)	
trial. Am J				included.		over 3 yrs taking antipsychotic	Scale (GAF) at 6-		No. of yrs	
Psychiatry.				Crises are		medication, whereas the	month intervals		psychiatric	
156, 1563-				managed		mentalization-based treatment	after 18 months of		outpatient	
1569.				within the		group had less than 2 months.	MBT by partial		treatment, d	
				team;		Smaller but still substantial	hospitalization:		= 0.93 (-4,	
				medication is		differences were apparent in	TX profiles		1.5)	
				prescribed		antidepressant and mood	(emergency room		No. of yrs	
				according to		stabilizer use.	visits,		further	
				protocol by a		The TAU group spent nearly 2 yrs	hospitalization,		therapy 36	
				psychiatrist		taking three or more	psychiatric		months	
				working in the		psychoactive medications,	outpatients,		post-intake,	
				therapy		compared to an average of 2	community		d = 0.07	
				program.		months for the MBT group.	support,		(-0.23, 0.37)	
				The focus of		At the end of the follow-up	psychotherapy,		No. of yrs	
				therapy is on		period, 13% of the MBT patients	medication) and		further	
				the patient's		met diagnostic criteria for BPD,	suicidality and self-		assertive	
				moment-to-		compared with 87% of the TAU	harm using criteria		outreach	
				moment state		group.	defined in the		treatment, d	
				of mind. The		The contrast between mean total	original trial for		= 1.8 (1.4,	
				patient and		scores for the Zanarini Rating	each patient by		2.2)	
				therapist		Scale for BPD yielded a large	interview and		Medication	
				collaboratively		effect size favouring the MBT	scrutiny of medical		(yrs)	
				try to		group, albeit with a wide	records.		antidepressa	
				generate		confidence interval.	Collected data		nts, d = 1.1	
				alternative		Multivariate analysis of variance	twice yearly on		(0.45, 1.7)	
				perspectives		across the four symptom clusters	vocational status,		Medication	
				to the		also reflected the better outcome	calculating the		(yrs)	
				patient's		for the MBT group (Wilks's	number of 6-month		antipsychoti	
				subjective		lambda = 0.55, F = 6.4, df = 4, 32,	periods in which		cs, d = 2.04	
				experience of		p = 0.001).	the patient was		(1.6, 2.5)	
I				himself or		The largest differences favouring	employed or		Medication	
I				herself and		MBT were in terms of impulsivity	attended an		(yrs) mood	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				others by moving from validating and supportive interventions to exploring the therapy relationship itself as it suggests alternative understanding .		and interpersonal functioning. There was over a 6-point difference in the GAF scores between the two groups, yielding a clinically significant moderate effect size of 0.8 (95% CI =—1.9 to 3.4). 46% of MBT group compared to 11% of the TAU group had GAF scores above 60. Vocational status favoured the MBT group, who were employed for nearly three times as long as the TAU group. There was increase in the % of MBT group's employment or education in the three post discharge periods.	educational program for more than 3 months. Patient recall for self-harm was unreliable and could not be independently corroborated from medical records and so is not reported. The authors consider the frequency of emergency room visits to be a reasonable proxy of severe self-harm in this population.		stabilisers, d = 1.17 (0.73, 1.6) Medication (yrs) 3 or more drugs, d = 1.45 (1.1, 1.8)	
Bateman, A., & Fonagy, P. (2009). Randomized controlled trial of outpatient mentalizatio n-based treatment versus structured clinical managemen t for	RCT Level II	N=134 MBT (T) n= 71 SCM (C) n= 63	Age mean (SD) TX= 31.3 (7.6) C=30.9 (7.9) Female (n, %) TX= 57, 80.3% C= 50, 79.4% Diagnosis - All participants were assessed	Mentalization-based treatment (MBT) is manualized, consisting of 18 months of weekly combined individual and group psychotherapy provided by two different therapists.	Protocol- driven treatment, structured clinical management (SCM), in an outpatient context representing best current clinical practice. Practitioners received	Summary: Greater reductions in self harm, suicide, hospitalisation and medication use in MBT than clinical mgt. Greater increases in general functioning, depression and social adjustment, relationships in MBT Detail: Suicidal behaviour: Six-month periods free of suicidal behaviours, severe self-injurious behaviours, and hospitalization improved from 0% to 43% in the SCM group and to 73% in the MBT group; behaviour increased	Primary outcome: proportion of each group without severe parasuicidal behaviour as indi- cated by 1) suicide attempt, 2) life- threatening self- harm, or 3) hospital admission. Hospital admission was included because patients are primarily offered inpatient	18 mths Assessed at entry and over the course of an 18- mth treatmen t at 6, 12, and 18 mths.	Life- threatening suicide attempts, d = 0.65 (0.58, 0.73) Severe self- harm attempts, d = 0.62 (0.28, 0.97) Interpersona I distress, d = 0.95 (0.59, 1.3)	This study suggests that structured, integrated psychological and psychiatric treatment offering coordinate d clinical manageme nt recommen

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-	Size	
	Level of		Gender					up		
	Evidence		Diagnosis							
			Other							
borderline			using the	MBT is a	equivalent	in patients assigned to MBT more	care in anticipation		Social	ded by
personality			Structured	psychodynami	supervision.	than for patients in the SCM	of suicide attempts		adjustment	NICE signifi-
disorder.			Clinical	c treatment	Crisis plans	group, however, differences only	and severe self-		problems, d	cantly
American			Interview for	rooted in at-	were	became statistically significant	harm		= 0.72 (0.37,	benefits
Journal of			DSM-IV	tachment and	developed	after 12 months of treatment.	Secondary		1.06)	patients
Psychiatry,			(SCID-I and	cognitive	collaboratively		outcome: were		Symptom	with
166(12),			SCID-II).	theory. It	within each	Number of episodes of hospital	independently		distress, d =	borderline
1355-1364.			Ethnicity -	requires	treatment	admissions, suicide attempts, and	rated Global		0.67 (0.33,	personality
UK			White	limited train-	team for all	severe self-injuries) also declined	Assessment of		1.02)	disorder.
			British/Euro	ing with	patients. SCM	in both groups but a substantially	Functioning (GAF)		Depression,	Both
			pean MBT:	moderate	therapists	greater reduction in the MBT	scores at the		d=0.45 (0.1,	conditions
			76.1%, SCM:	levels of	focused on	than the SCM group.	beginning and end		0.79)	were
			68.3%; Black	supervision	support and	Data were relatively consistent	of treatment and		Hospital	associated
			African/Afro	for implemen-	problem	showed reduced suicidal	self-reported		admissions,	with
			-Caribbean	tation by	solving.	behaviour in both groups. The	psychiatric		suicidal and	substantiall
			MBT: 15.5%,	generic		rate of improvement was	symptoms, social		self-injurious	y reduced
			20.6%	mental health		significantly greater in the MBT	and interpersonal		episodes, d=	suicidality,
			Other	professionals.		group both in terms of any	functioning, and		-0.72 (-1.07,	self-harm,
			Chinese/Tur	It aims to		suicide attempt and the count	medication use as-		-0.37)	and
			kish	strengthen		data associated with it.	sessed at baseline		Length of	hospitalizat
			Pakistani	patients'		Differences between groups only	and at 6-month		hospitalisati	ion and
			8.5%, 11.1%	capacity to		became marked in the last 6	intervals until the		on , d=-0.43,	improveme
			Exclusion	understand		months of treatment; at 12	end of treatment at		(-0.78, -0.09)	nt on
			Inclusion	their own and		months, groups were not	18 months.		Medication	measures
			criteria were	others' mental		significantly different.			use, d=-0.58,	of
			1) diagnosis	states in		Self-harm: Frequency of self-	Patients' subjective		(-0.93, -0.24)	symptoms
			of BPD, 2)	attachment		harm behaviours had significantly	experience of		Psychiatric	and social
			suicide	contexts in		steeper reduction in the MBT	symptoms was		hospitalisati	and
			attempt or	order to		group compared with SCM.	measured using the		on, d= -0.53,	interperson
			episode of	address their		During the 6 months before end	SCL-90-R, and		(-0.88, -0.19)	al
		1	life-	difficulties		of treatment fewer patients in	depression was			functioning
		1	threatening	with affect,		the MBT group severely self-	assessed by using			by the end
		1	self-harm	impulse		harmed (24% versus 43%, c2=4.6,	the Beck			of
		1	within last 6	regulation,		p<0.05; relative risk=0.55, 95%	Depression			treatment.
		1	months, and	and		CI=0.33-0.92).	Inventory.			The rate of

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-	Size	
	Level of		Gender					up		
	Evidence		Diagnosis							
			Other							
			3) age 18-	interpersonal		However, during the first 6	Social adjustment			improveme
			65. Exclusion	functioning,		months of tx, comparison of the	and interpersonal			nt in both
			criteria were	which act as		proportion of individuals	functioning were			groups was
			kept to a	triggers for		manifesting self-injurious	measured using the			higher than
			minimum.	acts of suicide		behaviour favoured the SCM	modified Social			spon-
			Patients	and self-harm.		group (75% versus 59%, c2=3.1,	Adjustment Scale-			taneous
			were	Crisis plans		p<0.08; relative risk=1.27, 95%	self-report and the			remission
			excluded if	were		CI=0.99-1.63).	Inventory of			of
			they	developed		From 6 to 18 months the	Interpersonal			symptoms
			currently	collaboratively		proportion of these patients in	Problems-			of BPD.
			1) were in	within each		the MBT group who self-harmed	circumflex version.			Although
			long-term	treatment		showed a steeper decline when	The instruments			patients in
			psychothera	team for all		compared with the SCM group.	provide an			both
			peutic	patients. MBT		The more consistent reduction in	assessment of an			groups
			treatment,	therapists		the counts of self-injurious	individual's work,			made
			2) met DSM-	focused on		behaviour and the difference in	spare time			statistically
			IV criteria	helping		incidence rate ratios favouring	activities, and			significant
			for psychotic	patients		MBT was highly statistically	family life as well as			improveme
			disorder or	reinstate		significant.	difficulties with			nts, MBT
			bipolar I	mentalising		Hospitalisation:	interpersonal			was as-
			disorder,	during a crisis		Before treatment about 25% of	functioning.			sociated
			3) had	via telephone		each group had had at least one				with
			opiate	contact.		hospital admission. During the				greater
			dependence	SCM		first 6 months of treatment				improveme
			requiring	therapists		patients in the MBT group had				nts than
			specialist	focused on		significantly fewer days in				SCM for
			treatment,	support and		hospital (Kruskal-Wallis c2=4.25,				most
			or	problem		p<0.04), and the difference				outcomes.
			4) had	solving		increased by 12 months (Kruskal-				Very good
			mental			Wallis c2=6.54, p<0.02) and 18				description
			impairment			months (Kruskal-Wallis c2=9.01,				of factors
			or evidence			p<0.003).				similar
			of organic							between
			brain			The decline in number of				groups and
			disorder.			admissions over the whole period				randomisati

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-	Size	
	Level of		Gender					up		
	Evidence		Diagnosis							
			Other							
			Current			of treatment was significantly				on
			psychiatric			steeper in the MBT group.				procedures.
			inpatient							
			treatment,			The number of patients				QC
			temporary			hospitalized reduced in the MBT				1.1=A
			residence,			group relative to the SCM group				1.2=A
			drug/alcohol			and was markedly lower in the				1.3=B
			misuse, and			MBT group in the last 6 months				1.4=F
			comorbid			of treatment (c2=7.7, p<0.005;				1.5=A
			personality			relative risk=0.14, 95% CI=0.3-				1.6=A
			disorder			0.64).				1.7=A
			were not							1.8= 0%
			exclusion			Secondary outcomes: GAF				1.9= A
			criteria.			increased substantially for both				1.10=F
						groups over the 18-month period				2.1 = (++)
						from 41 (95% CI=39.7-42.7) to 57				
						(95% CI=54.9-60.0) (t=15.5,				
						df=125, p<0.0001) but the				
						increase was rated as greater in				
						the MBT group. There was				
						improvement on all self-rated				
						measures for both groups. This				
						was particularly notable for				
						symptoms of depression and				
						social adjustment. The slope of				
						decline in self-reported				
						symptoms and relationship and				
						social adjustment problems was				
						significantly greater in the MBT				
						group across all four measures.				
						The size of difference between				
						the two groups at the end of				
						treatment was substantial for				
						reduction in interpersonal				
						distress (d=0.95, 95% CI=0.59–				

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-	Effect Size	Comments
,	Level of		Gender					up		
	Evidence		Diagnosis							
			Other							
						1.3), moderate for social				
						adjustment problems (d=0.72,				
						95% CI=0.37-1.06) and symptom				
						distress (d=0.67, 95% CI=0.33-				
						1.02), and more modest for				
						depression (d=0.45, 95% CI=0.10-				
						0.79).				
						Medication: use of medication				
						reduced significantly in both				
						groups. The proportion of				
						patients not receiving medication				
						increased from 27% to 57%. The				
						increase was greater for the MBT				
						group. Counting the number of				
						classes of psychotropic				
						medication also showed a decline				
						across both groups with the				
						incidence rate ratio suggesting a				
						significant difference in favour of				
						the MBT group. The number of				
						people receiving two or more				
						different classes of medication				
						substantially reduced in both				
						groups from 30% at the beginning				
						of treatment to 8% at the end of				
						treatment.				

STEPPS

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
Bos, E.H.,	RCT	N=79	Between 8	Systems Training	Treatment as	Summary: Both groups	Primary efficacy	Pre-	Effect sizes (non-	Moderate to
Van Wel,	Level II		and 12	for Emotional	usual (TAU):	improved n measures of	measures	treatment	standardised):	large effect
E.B.,		TX	subjects	Predictability and	The STEPPS	BPD pathology and	included	assessme		sizes were seen
Appelo,	Randomiza	(n = 42)	were	Problem Solving	groups began	general functioning, QoL,	general	nts (T1)	Primary	for symptom
M.T., &	tion was		included in	(STEPPS) +	simultaneousl	medication use and	psychiatric and	took place	outcomes:	variables and
Verbraak,	done	С	each group	individual	y with a group	treatment attendance	BPD-specific	following	Estimated mean	psychological
M.J. (2010).	separately	(n = 37)	for the	treatment	of patients	but STEPPS showed	symptoms,	randomiz	differences at	quality of life at
Α	at each	`	Treatment	Group treatment;	that started	greater improvement	measured with	ation, just	the end of	T2. At T3,
randomized	location.		group. If at	it combines skills	TAU. The	than TAU. No differences	the Symptom	before	treatment (T2),	moderate
controlled			the time of	training with	control	in parasuicide measures	Checklist-90	the start	adjusted for	effects on
trial of a			randomisati	general CBT	condition was	·	total score (SCL-	of the	differences at	symptoms
Dutch			on, an	elements and has	TAU, i.e., the	Detail: Scores on the	90) and the	interventi	T1, were: SCL-	were still
version of			insufficient	a strong systems	standard	primary efficacy	Borderline	on. Post-	90, -47.0 (95%	present, while
systems			number of	component;	treatment for	measures. SCL-90 and	Personality	treatment	CI, -78.2 to	also moderate
training for			participants	family members	BPD offered at	BPD-40 symptom scores	Disorder	assessme	-15.9, p = 0.003);	effects on
emotional			were	and significant	the	generally decreased	checklist-40	nts (T2)	BPD-40, -18.7	physical, social
predictabilit			assigned to	others are	participating	from T1 to T3, and more	total score	were	(95% CI, -31.6 to	and overall
y and			a group, the	actively involved	sites. This	so in the STEPPS group	(BPD-40)	done	-5.8, p = 0.005).	quality of life
problem			remaining	in the program.	treatment	than in the TAU group.	respectively.	after the	At 6-month	could be
solving for			spots were	1 0	consisted of	Quality of life scores	Secondary	final	follow-up (T3),	observed.
borderline			randomly	The Dutch version	individual	(WHOQOL-Bref)	outcome	weekly	the differences	More than
personality			assigned to	of the STEPPS	therapy from	generally increased from	measures	session of	were smaller but	TAU, STEPPS
disorder.			subjects	group program	a	T1 to T3. Overall	included	the	still significant:	plus limited
Journal of			who did not	involves 18	psychotherapi	treatment effects were	impulsive and	STEPPS	SCL-90, -38.4	adjunctive
Nervous			meet full	weekly sessions	st,	found for Overall Quality	parasuicidal	program	(95% CI, -67.1 to	individual
and Mental			BPD criteria	and a single	psychologist,	of Life and General	behaviour, and	(mean	-9.6, p =0.009);	therapy
Disease,			(these	follow-up session	or psychiatric	Health, Physical Health,	quality of life.	23.9 ±3.6	BPD-40, -14.7	reduced
198(4), 299-			participants	3 to 6 months	nurse, offered	and Psychological	Impulsive and	weeks	(95% Cl, -26.6 to	symptomatolo
304.			were not	after the	every 1 to 4	Health. For Social	parasuicidal	after T1).	-2.8, p =0.016).	gy and
			included in	conclusion of the	weeks.	Relationships the overall	behaviour were	Follow-	, ,	improved
The			this	program. The	STEPPS-	treatment effect was a	assessed using 2	up	Secondary	quality of life,
Netherlands			analysis).	program has 3	related	trend, for Environment	subscales of the	assessme	outcomes:	in the longer
				main	treatments	the overall treatment	Borderline	nts (T3)	In the domain of	run. STEPPS
				components: (1)	like DBT or	effect was not	Personality	took place	Psychological	was not

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Age mean (SD) Treatment 32.9 (5.6) Control 31.8 (9.2) Gender — female (n,%) Treatment 35, 83.3% Control 33, 89.2% Diagnosis: BPD confirmed by administerin g the BPD modules from the Dutch versions of the Personality Diagnostic Questionnair e and the Structured Clinical Interview for	psychoeducation about BPD; (2) emotion management skills training; and (3) behaviour management skills training. STEPPS is systembased in that friends and relatives of the patients are explicitly involved in the program for support and reinforcement of the newly learned skills (the "support group"). They receive education about BPD and are instructed how to interact with the person with the disorder. STEPPS is administered by 2 mental health professionals, of who at least one	family groups for family members of the patients were not allowed. In both conditions, the main treatment could be supplemented with (medication) contacts with a psychiatrist, social worker, or other health care professional.	significant. In both conditions, the number of patients scoring above the cut-off for ratings for the parasuicide and impulsivity subscales of the BPDSI-IV decreased from T1 to T3. There were no significant differences between the conditions (overall treatment effects). Medication was similar between the groups at baseline and remained stable during follow-up assessment. Over the entire study period, patients in the STEPPS group received 15 STEPPS group sessions on average, and had a mean of 8 contacts with their individual therapist. TAU-patients had a mean of 9 individual contacts with their main therapist. In addition to these study treatment contacts, TAU-patients reported to have had 31 ambulatory	Disorder Severity Index-IV (BPDSI-IV). The impulsivity subscale contains 11 items reflecting potentially harmful impulsive behaviours (e.g., gambling, reckless driving, binge eating). The parasuicide subscale contains 13 items reflecting self-mutilating parasuicidal behaviours and suicidal thoughts and attempts. Quality of life was measured with the World Health Organization Quality of Life Assessment-Bref (WHOQOL-	approxim ately 6 months after T2 (mean 25.7 ±4.2 weeks after T2). Outcome measures were assessed on all 3 occasions	Health, STEPPS scores were higher than TAU scores particularly at T2 (estimated mean difference adjusted for T1 score: 2.08 [95% CI, 0.76 –3.41, p = 0.002]); at T3, this difference was reduced to 0.91 (95% CI, -0.32 – 2.15, p = 0.146). With respect to Overall Quality of Life and General Health, Physical Health and Social Relationships, STEPPS scores were significantly higher than TAU scores only at T3 (estimated differences 1.80 [95% CI, 0.30 – 3.30, p = 0.019];	superior to TAU in reducing impulsive and parasuicidal behaviours, but this may be explained by the low base rate of these behaviours in our sample. It may also be that a more intensive treatment, such as DBT, is required to find differential effects on these behaviours. The merit of the STEPPS program is that it is relatively easily learned and implemented, and nevertheless improves BPD
			DSM-IV Axis II Disorders. Participants	is a psychotherapist. Subjects assigned		therapy contacts on average with other mental health care	Bref)		1.41 [95% CI, 0.15 – 2.66, p = 0.028]; and 1.86	treatment in a number of ways. Further

Ref, Country	Study Design/	N (n)	Participants Age	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Level of Evidence		Gender Diagnosis							
	Evidence		Other							
			had to be	to STEPPS also		workers (e.g.,			[95% CI, 0.14 –	research to
			above	received limited		psychiatrists,			3.57, p = 0.035],	compare this
			threshold on	individual		psychologists,			respectively),	treatment with
			either	therapy. This		psychiatric nurses, social			but not at T2	other effective
			impulsivity	therapy was		workers). Patients in the			(estimated	treatments is
			and/or	developed as an		STEPPS condition had a			differences 1.58	warranted.
			parasuicide	adjunct to STEPPS		mean of 21 additional			[95% CI, -0.07 –	Importantly,
			subscales of	to help		ambulatory therapy			3.22, p = 0.060];	this RCT on
			the BPD	consolidate the		contacts.			0.96 [95% CI,	STEPPS is the
			Severity	newly acquired					-0.40 – 2.32, p =	first done by
			Index-IV	skills and to					0.164]; and 0.77	others than its
				stimulate their					[95% CI, -1.08 -	developers.
			Exclusion:	use. It had a					2.61, p = 0.431,	Raters were
			Subjects	structured					respectively).	not blind and
			were	format, in which					Odds ratios for	interrater
			excluded if	the previous					impulsivity were	reliability was
			they did not	STEPPS session					(T2): 0.81 (95%	not assessed
			speak Dutch;	was discussed as					CI, 0.26 – 2.53, p	for the BPDSI-
			were	well as the use of					= 0.716); and	IV. Intention to
			cognitively	the learned skills					(T3): 0.68 (95%	treat analysis
			impaired (IQ	in everyday life.					CI, 0.22 – 2.09, p	was completed
			< 70);	The therapy was					= 0.501). Odds	but yielded
			younger	offered every 2					ratios for	similar results
			than 18 yrs;	weeks during the					parasuicide were	to the per-
			treated	entire study					(T2): 2.05 (95%	protocol
			involuntary;	period.					CI, 0.66–6.35, p	analysis so only
			or presented						= 0.211); and	the per-
			an imminent						(T3): 1.02 (95%	protocol
			danger to						CI, 0.35 – 2.97, p	analysis was
			themselves						= 0.974).	presented. The
			or others.						Effect sizes	comparability
									(standardised):	of treatment
									Effect sizes for	between sites
									the differences	and the
									between the	comparability

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
									treatments at T2: SCL-90, 0.68; BPD-40, 0.68; Psychological Health, 0.96. At T3 effect sizes were: SCL-90, 0.56; BPD-40, 0.53; Overall Quality of life & General Health, 0.61; Physical Health, 0.56; Social Relationships, 0.61.	between different therapists was not assessed. QC 1.1=A 1.2=A 1.3=B 1.4=F 1.5=A 1.6=A 1.7=B 1.8= 28.9% (TX) and 13.2% (C) 1.9= 3 1.10=4 2.1 = (+)
Schuppert, H., Giesen- Bloo, J., van Gemert, T.G., Wiersema, H.M., Minderaa, R.B., Emmelkamp , P.M., & Nauta, M.H. (2009). Effectivenes s of an emotion regulation	RCT Level II 4 block randomisa tion	N=43 ERT+TA U = 23 TAU=2 0	Age: ERT+TAU = 16.23yo; TAU=15.9 Gender: ERT+TAU = 95.6% FM; TAU = 80% FM	Emotion Regulation Training (ERT) is an adaptation of STEPPS involving 17 sessions, one systems meeting and two booster sessions. The main goal of the training is to introduce alternative ways of coping with affective instability, daily stressors and	Treatment as usual (TAU): medication, individual psychotherap y, systembased therapy, inpatient psychiatric care and emergency services in case of selfharm or suicidal behaviour.	Summary: Both ERT adapted from STEPPS and TAU improved over time but no difference was found between groups. Detail: Repeated measure ANOVAs indicate improvement over time, measured by the total score of the BPDSI-IV (F [1, 29] = 6.39; p = 0.02). The other primary outcome measures demonstrated no	BPDSI-IV to assess current severity and frequency of DSM-IV BPD symptoms. The Multidimension al Emotion Regulation Locus of Control (MERLC) The Youth Self Report (YSR)	Post treatment	BPDSI-IV total score = 0.27 BPDSI-IV affective stability = 0.33 MERLC subscale internal locus of control =49 YSR subscale internalizing = 0.04 YSR subscale externalizing = 0.15	QC 1.1=A 1.2=A 1.3=E 1.4=B 1.5=B 1.6=B 1.7=B 1.8=6.5% drop from assessment to randomisation; 39% loss to second assessment ERT & 15% in TAU;

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
group training for adolescents-A randomized controlled pilot study. Clinical Psychology & Psychothera py, 16(6), 467-478. The Netherlands				psychological vulnerability. Reducing selfharm or harm to others is another important issue. The adolescents learn that they can take more responsibility for their behaviour and realize they have a choice in how to (re)act when emotionally distressed.		significant improvement over time (BPDSI-IV subscale affect regulation (F [1, 29] = 2.06; p = 0.16) and internal locus of control as measured by the MERLC (F [1, 24] = 0.49; p = 0.49)). According to the secondary outcome measures, a trend over time was found on the internalizing subscale of the YSR (F [1, 23] = 4.10; p = 0.06), but no significant effect on the externalizing subscale of the YSR (F [1, 24] = 2.61; p = 0.12). Repeated measure ANOVAs on the BPDSI-IV showed that there was no significant level of change between groups for both the total and the subscale affective stability of the BPDSI-IV (BPDSI-IV total score F [1, 29] = 0.07; p = 0.79; BPDSI-IV subscale affect regulation F [1, 29] = 0.24; p = 0.63). Other primary outcome				1.9= D 1.10=E 2.1 = (-)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Lviderice		Other							
						interaction effect on the				
						adolescents' MERLC				
						subscale internal locus of				
						control (F [1, 24] = 9.16;				
						p = 0.006).				
						Adolescents in the ERT				
						group reported an				
						improvement in their				
						feeling of having control				
						over their emotions,				
						whereas the adolescents				
						in the TAU alone group				
						reported a decrease of				
						internal locus of control.				
						The secondary outcome				
						measures for the				
						adolescents showed no				
						significant effect				
						between groups,				
						measured by the YSR,				
						internalizing and				
						externalizing subscales				
						(YSRintern F [1, 23] =				
						0.32; p = 0.58; YSRextern				
						F [1, 24] = 0.06; p =				
						0.82).				

IPT

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Bellino, S., Rinaldi, C., Bogetto, F. (2010) Adaptation of interpersonal psychotherap y to borderline personality disorder: A comparison of combined therapy and single pharmacother apy. Canadian Journal of Psychiatry. 55(2), 74-81.	RCT Level II	N = 55 enrolled N = 44 analysed	55 participants (18 males and 37 females) with DSM-IV-TR diagnosis of BPD were recruited from patients attending the Service for Personality Disorder of the Unit of Psychiatry, Department of Neuroscience, University of Turin. Mean age of 25.8 yrs in medication-only group and 26.2 yrs in combined therapy group; 62% previous hospitalizations; 27% employed; 31% married. Excluded were those with a lifetime	28 patients received fluoxetine 20 mg to 40 mg daily (see control group for schedule) plus IPT-BPD. IPT-DBT consisted of weekly, manualised sessions lasting 1 hour. Patients in the combined therapy group were treated by a psychotherapi st who was not the psychiatrist prescribing the medication and who had 5 yrs of experience practising IPT. The psychotherap y and the	27 patients received fluoxetine 20 mg to 40 mg daily plus clinical management consisting of a fortnightly clinical review of 15-20 minutes duration. Initially, fluoxetine was prescribed at a fixed dosage of 20 mg daily with the opportunity to increase the dosage to 40 mg daily beginning in week 2, depending on clinical judgment. Treatment lasted 32 weeks.	Summary: Small sample size limits ability to draw strong conclusions but results suggest that combined therapy was superior to monotherapy in relieving anxiety, improving functioning and alleviating the severity of some symptoms of BPD during the 32 weeks of the trial Detail: Of 55 subjects, 11 (20%) dropped out (6 in medicationonly, 5 in combined therapy). Only treatment completers (n=44) were included in the analysis. Using a univariate General Linear Model to calculate the effects of 1) duration of treatment and 2) the type of treatment on each assessment scale score, only duration of treatment had a statistically significant effect on global functioning, depressive symptoms and social and occupational functioning (p=<0.001), while both treatments alleviated symptoms of depression and improved global functioning. Combined therapy was superior	Depression (Hamilton Depression Rating Scale) Anxiety (Hamilton Anxiety Rating Scale) Quality of life (SAT-P satisfaction profile) Global functioning (CGI Clinical Global Impression Scale) Social and occupational functioning (SOFAS) BPD symptoms severity and frequency (BPD-SI)	Treatment lasted 32 weeks.		No Intention to treat analysis – only analysed data for completers (i.e. 44 of 55 enrolled) and potential attrition bias due to lack of compliance was not addressed. QC 1.1=A 1.2=C 1.3=B 1.4=D 1.5=B 1.6=B 1.7=B 1.8= 20% 1.9=D 1.10=F 2.1 = (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			delirium, dementia, amnestic or other cognitive disorders, schizophrenia or other psychotic disorders, and bipolar disorder. Concomitant Axis I or II disorders were also excluded. Female patients of childbearing age were excluded if they were not using an adequate method of birth control, as were those who had recently received psychotherapy or pharmacothera py, and current substance abusers.	apy started at the same time.		anxiety symptoms (p=<0.001). Combined therapy was significantly superior to medication-only in improving psychological functioning (p=0.003). The interaction between combined therapy and treatment duration was superior to medication-only in improving social functioning as measured by the SAT-P for subjective quality of life (p=0.03). Only duration of therapy had an effect on the BPD-SI total score (p=<0.001), and duration also had an effect on the following factors from the BPD-SI: outbursts of anger (p=<00.1) and emptiness (p=<.001). Combined therapy had significant effects on interpersonal relationships (p=<.009), impulsivity (p=<0.01), and affective instability (p=0.02) which increased over time (p=<0.001 for all domains). Neither type of therapy nor duration of therapy had effects on: abandonment, parasuicidal behaviour, paranoid ideation, and identity.				

Zizza, M., Camilla, R., & Level II enrolled diagnosis of Camilla, R., & Filippo, B. (2006)	Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
diagnosis of delirium, the same Linear Model to calculate the 1.5=A	Zizza, M., Camilla, R., & Filippo, B. (2006) Combined treatment of major depression in patients with borderline personality disorder: A comparison with pharmacother apy. Canadian Journal of Psychiatry, 51(7), 453- 460.		enrolled N=32	with DSM-IV-TR diagnosis of BPD who met clinical and DSM-IV criteria for a major depressive episode (mild to moderate). Mean age of 26.4 yrs (SD 3.7); male to female ratio 3:5. Subjects were selected from patients attending the Service for Personality Disorder of the Unit of Psychiatry, Department of Neuroscience, University of Turin. Excluded were those with a lifetime diagnosis of	received fluoxetine (see control group for schedule) plus IPT. IPT consisted of weekly, manualised sessions lasting 1 hour. Patients in the combined therapy group were treated by a psychotherapi st who was not the psychiatrist prescribing the medication and who had 5 yrs of experience practicing IPT. The psychotherap y and the pharmacother apy started at	received fluoxetine 20 mg to 40 mg daily plus clinical management. Initially, fluoxetine was prescribed at a fixed dosage of 20 mg daily with the opportunity to increase the dosage to 40 mg daily beginning in Week 2, depending on	does not allow strong conclusions to be drawn from this study but results suggest that combined therapy for BPD patients with comorbid depression may be superior to fluoxetine alone in improving symptoms of depression and social and psychological functioning Detail: Of 39 subjects, 7 dropped out (4 in medicationonly, 3 in combined therapy). Only subjects that completed the study were included in the analysis (n=32). Changes in depression remission rates, CGI, and HARS score did not differ between treatments with 75% (n =12) of combined-treatment patients and 62.5% (n =10) of medication-only patients achieving remission (x2 = 0.562, p = 0.446). (Remission was defined by a decreased HDRS score (≥ 40%), with a final score of ≤8, and a score of 1 (very much improved) on the Improvement item of the CGI). Using a univariate General	(Hamilton Depression Rating Scale - HDRS) Anxiety (Hamilton Anxiety Rating Scale - HARS) Quality of life (SAT-P satisfaction profile) Self- assessed interpersona I functioning (64-item Inventory of Interpersona I Problems) Global functioning (Clinical Global	lasted 24 weeks. Assessmen t at baseline, Week 12, and Week		demographic details reported. No description of randomisatio n procedure. No Intention to treat analysis – only analysed data for completers (i.e. 32 of 39 enrolled) and potential attrition bias due to lack of compliance was not addressed

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			amnestic or other cognitive disorders, schizophrenia or other psychotic disorders, and patients whose major depressive episode was an expression of bipolar disorder.	Treatment lasted 24 weeks.		treatment and 2) the type of treatment on each assessment scale score, treatment type had a significant effect on HDRS scores - subjects receiving combined therapy had lower mean HDRS scores (T0 mean 18.6, T1 mean 13.6, T2 mean 9.1) than medication only subjects (T0 mean 19.6, T1 mean 15.9, T2 mean 12; p=0.005). Duration of treatment also had a significant effect on HDRS scores (p=0.0005), but the interaction between the two was not significant. Combined therapy (p=0.020) and the interaction of duration and treatment (p=0.005) both had significant effects on social functioning and the difference between treatments increased over time. The interaction between combined therapy and treatment duration was superior to medication-only in improving psychological functioning (relates to selfesteem, problem solving, autonomy) as measured by the AST-P (combined T1 mean 47.0, T2 mean 69.0; medication only T1 50.0, T2 57.2; p=0.017).				1.7=B 1.8= 15% 1.9=D 1.10=F 2.1 = (+)

Transference focused psychotherapy

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Doering, S.,	RCT	Treatment	Age mean	Transference-	Treatment	Summary: TFP resulted	Primary:	Follow-	Any suicide	The results demonstrate
Horz, S.,	Level II	n = 52	(SD):	focused	by	in reduced BPD	Drop-outs	up: 1	attempts	the significant superiority
Rentrop, M.,			Treatment	psychotherap	community	symptoms compared to	Suicide	year	during	of transference-focused
Fischer-Kern, M.,		Control	27.46 ±6.8;	y (TFP): Two	psychothera	Treatment by	attempts		psychotherap	psychotherapy with
Schuster, P.,		n = 52	Control	50-minute	pist	community	and self-		y, d = -0.08	regard to the primary
Benecke, C.,			27.19 ± 7.5	sessions are		psychotherapist. Higher	harming		(-0.47, 0.30)	outcome criteria of drop-
Buchheim, A.,				delivered per		drop out in the control	behaviour:		BDI, d = 0.12	out rate and suicide
Martius, P.,			Gender – all	week. Before		group. No other	Cornell		(-0.26, 0.51)	attempts during the
Buchheim, P.			females	treatment		differences	Interview		Brief symptom	treatment year. The
(2010).				starts, a			for Suicidal		inventory, d =	same was true for the
Transference-			Diagnosis:	treatment		Detail: The drop-out rate	and Self-		0.08 (-0.31,	secondary outcome
focused			DSM-IV BPD	contract is		was significantly higher	Harming		0.46)	criteria, reduction of
psychotherapy			via	negotiated		in the experienced	Behaviour-		GAF, d = 0.34	DSM-IV diagnostic
v. Treatment by			Structured	orally with the		community	Self Report		(-0.04, 0.73)	borderline criteria,
community			Clinical	individual,		psychotherapists group.	(CISSB),		Level of	psychosocial functioning,
psychotherapists			Interview for	covering		There were no	adapted		personality	level of personality
for borderline			DSM and	general		significant differences	from the		organisation,	organisation and
personality			Structured	aspects like		between the groups with	Parasuicid		d = -0.26	psychiatric in-patient
disorder:			Interview for	duration and		regard to medication at	al History		(-0.65, 0.12)	admissions.
Randomised			Personality	payment as		baseline and during the	Interview		No. of days in	Participants in the
controlled trial.			Organisation	well as		1-year treatment period.			psychiatric	transference-focused
British Journal of				potential		The TFP group showed a	Secondary:		inpatient	psychotherapy group
Psychiatry,			Exclusion:	threats to the		significantly higher	DSM-IV		during	received 48.5 (s.d. = 34.2)
196(5), 389-395.			Exclusion	treatment		proportion of	diagnostic		psychotherap	sessions and those in the
			criteria were	specific to		participants that fulfilled	criteria for		y, d = -0.23	experienced community
Germany			diagnosis of	each patient		less than five DSM–IV	BPD via		(-0.61, 0.16)	psychotherapists group
			antisocial	(e.g. suicide		diagnostic borderline	SCID		No. of DSM-IV	18.6 (s.d. = 24.0) sessions
			personality	attempts,		criteria after 1 year and	GAF		diagnostic	of individual
			disorder,	drug misuse		were not diagnosed BPD	Beck		criteria for	psychotherapy within the
			schizophreni	or anorectic		any more (42.3% v.	Depression		BPD, d =-0.56	1-year study period.
			a, bipolar I	behaviour).		15.4%, P= 0.002). The	Inventory		(-0.95, -0.17)	Future research should
			and II	The treatment		TFP group was	State-Trait		No. of	look at long-term follow-

Leve	dy N (sign/ el of dence	(n) Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
		disorder with a major depressive, manic or hypomanic episode during the previous 6 months, substance dependency (including alcohol) during the previous 6 months, organic pathology or mental retardation.	focuses on the integration of internalised experiences of dysfunctional early relationships. For this purpose, the actual relationship between the individual and the therapist ('transference relationship') is examined as much as possible. Additional psychotherap y not allowed		significantly superior with regard to the number of DSM–IV diagnostic criteria, psychosocial functioning, personality organisation, suicide attempts and number and duration of psychiatric in-patient treatments. To rule out a mere dose effect of TFP, completer analyses were conducted, controlling for the number of therapy sessions delivered. The group differences remained significant for GAF Score, number of DSM–IV borderline criteria, and level of personality organisation. In both groups all but one of the individuals who attempted suicide dropped out of treatment. Those who dropped out were not included in the completer analysis.	Anxiety Inventory Brief Symptom Inventory Psychiatric inpatient admissions - Cornell Revised Treatment History Inventory (CRTHI) Personality organisatio n: STIPO		psychiatric inpatient admissions during psychotherap y, d = -0.47 (-0.86, -0.08) Self-harming during psychotherap y, d = -0.12 (-0.50, 0.27) State-Trait Anxiety X1, d = 0.18 (-0.20, 0.57) State-Trait Anxiety X2, d = 0.04 (-0.35, 0.42)	up, since effects of psychotherapy seem to take yrs to develop and to continue after termination of treatment. Transference-therapists received more supervision and had assessment of treatment adherence. Large difference in drop out rates between groups was observed. Control group participants attended fewer sessions than the intervention group. QC 1.1=A 1.2=A 1.3=A 1.4=F 1.5=A 1.6=C 1.7=A 1.8= Treatment 17% not assessed at follow-up; Control 44% not assessed at follow-up 1.9= A 1.10=C 2.1 = (-)

Dynamic deconstructive psychotherapy

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Gregory, R.J.	RCT	N=30	Age mean	Dynamic	Optimized	Summary: DDP	BPD section of			Sample size is
DeLucia-	Level II		(SD):	deconstructive	community care	showed greater	the Structured			small, making it
Deranja, E., &		Treatment	Treatment	psychotherapy	(OCC): referred	improvements on	Clinical			difficult to draw
Mogle, J.A.		n = 15	28.3±7.1;	(DDP): a time-	to the best	BPD and depressive	Interview for			firm conclusions.
(2010) Dynamic			Control	limited, 1hr	treatment	symptoms and	DSM-IV Axis II			This difficulty is
deconstructive		Control	29±8.6	weekly individual	available in the	dissociation. Both	Personality			exacerbated by
psychotherapy		n = 15		treatment.	community	groups improved	Disorders			participants who
versus			Gender –	Manual-based	within the	suicidal and self harm	The alcohol			were lost to
optimized			female (n,	treatment for	restrictions of	behaviours in heavy	disorders			follow-up.
community			%):	particularly	their own	drinking but DDP	module of the			
care for			Treatment	challenging	financial	showed greater	Structured			QC
borderline			13 (87%);	populations of	resources,	improvement	Clinical			1.1=A
personality			Control 11	BPD, especially	availability of		Interview for			1.2=A
disorder co-			(73%)	those having co-	treatment, and	Detail: Almost all	DSM-IV-TR Axis			1.3=B
occurring with				occurring	their willingness	DDP participants	I Disorders			1.4=F
alcohol use			Diagnosis:	substance use	to engage. Over	displayed clinically	Severity of BPD:			1.5=B
disorders: A 30-			Participants	disorders or	the course of	meaningful	Borderline			1.6=B
month follow-			included 30	antisocial	the study, their	improvement by 12	Evaluation of			1.7=A
up.			adults ages	personality	treatment	months, compared	Severity Over			1.8= Tx 40%
[Comparative			18 to 45 yrs	disorder.	generally	with only 38% of	Time (BEST)			dropped out of
Study]. Journal			having BPD	Although DDP is	involved a	participants receiving	Beck Depression			treatment;
of Nervous &			and active	offered as a	combination of	OCC. This difference	Inventory (BDI)			Control 33%
Mental Disease,			alcohol	stand-alone	individual	was sustained during	Dissociative			dropped out of
198(4), 292-			abuse (n=10)	treatment,	psychotherapy,	the naturalistic	Experiences			treatment; Tx
298.			or	therapists	medication	follow-up period	Scale (DES)			and control
			dependence	encourage the	management,	Relative to	Treatment			46.7% dropped
USA			(n =20).	use of adjunctive	alcohol and	participants receiving	History			out of follow-up.
			Diagnosed	modalities, such	drug	OCC, DDP	Interview (THI)			1.9= A
			via	as group therapy,	counselling,	participants made	Maladaptive			1.10=D
			Structured	family therapy,	professional	large and statistically	behaviours			2.1 = (+)
			Clinical	self-help groups,	and self-help	significant reductions	were assessed			
			Interview for	and medications.	groups (such as	over time in BPD	by structured			
			DSM-IV Axis	The key deficit of	Alcoholics	symptoms and	interviews,			
			II Personality	BPD within this	Anonymous),	depression and more	including: (1)			

Disorders and processing of Structured Clinical emotional experiences. DDP attempts to Disorders Disorders Exclusion: Exclusion criteria included schizophreni a or schizoaffecti ve disorder, mental retardation, or emotional ecurological emotional ecurological emotional ecurological emotional ecurological emotional ecuperiences), 2.45 vs. 2.34 ± participants who dest improvement in dissociation. Gains and/or case management. During the first changement in dissociation. Gains achieved during the achieved during the veratment with DDP were sustained during the emotional emotional sequence management. During the first treatment in dissociation. Gains achieved during the emotional current study to enumerate self-harm episodes and suicide attempts over study completers (n = bip period. An analysis of DDP participant study completers (n = bip period. An analysis of DDP participant study completers (n = bip period. An analysis of DDP participant study completers (n = contact hours per month baseline and 30 months; (2) addiction sequence mentional used (2.67 ± ability to identify, acknowledge, and sequence emotional used (2.67 ± acknowledge). As a group, the consuming ≥5 drinks on a	Ref, Study Country Design Level o Eviden	·	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
having secondary complex and psychiatric symptoms. attributions of self and others), and Alterity (the ability to form realistic and differentiated attributions of self and others). Interventions that having secondary complex and complex and participating in self-help groups of BPD modestly improved, whereas depression and social problems. complex and participating in self-help groups of BPD modestly improved, whereas depression and dissociation remained largely unchanged at 30 scale (SPS) months as compared with baseline. Both groups of participants Addiction recreational drug use, as well as related health and social problems. Social support: Social SPS) Occupational functioning: item from Addiction			and Structured Clinical Interview for DSM-IV-TR Axis I Disorders Exclusion: Exclusion criteria included schizophreni a or schizoaffecti ve disorder, mental retardation, or neurological conditions having secondary psychiatric	processing of emotional experiences. DDP attempts to remediate deficits in 3 neurocognitive functions putatively responsible for adaptive processing of emotional experiences: Association (the ability to identify, acknowledge, and sequence emotional experiences), Attribution (the ability to form complex and integrated attributions of self and others), and Alterity (the ability to form realistic and differentiated attributions of self and others).	management. During the first 12 months, overall treatment intensity of OCC tended to be higher than DDP for total paid outpatient mental health contact hours per month (7.39±6.92 vs. 4.79±2.81), average number of psychotropic medications used (2.67 ± 1.45 vs. 2.34 ± 1.61) and proportion participating in self-help groups	in dissociation. Gains achieved during treatment with DDP were sustained during the naturalistic follow-up period. An analysis of DDP participant study completers (n = 8) revealed large repeated measures effect sizes between baseline and 30 months for BEST and BDI scores) and a medium effect size for change in DES score. As a group, the participants who received OCC had mixed symptom changes. Symptoms of BPD modestly improved, whereas depression and dissociation remained largely unchanged at 30 months as compared with baseline. Both groups of	Parasuicide Count, modified in the current study to enumerate self- harm episodes and suicide attempts over the previous 6 months; (2) Addiction Severity Index (McLellan et al., 1992) quantifies substance use over the prior month, such as heavy drinking (consuming ≥5 drinks on a single occasion), recreational drug use, as well as related health and social problems. Social support: Social Provisions Scale (SPS) Occupational functioning: item from			

Other	up	follow- up	Size	
activate these neurocognitive functions form the foundation of DDP. All DDP participants were required to terminate treatment with DDP after 12 to a significant change from baseline and a large treatment eparticipants elected to discontinue any type of individual parsucide also significantly improved from baseline and they creferred to nonspecific supportive psychotherapy in the community. The community. activate these neurocognitive functions for the participants were required to terminate the nonlonger engaged in parasucide. This was a significant change from baseline and a large treatment effect. Among OCC participants, the frequency of participants, the frequency of participants effect. Among OCC participants, the frequency of saleline to 30 months; however, a third were referred to nonspecific supportive psychotherapy in the community. The community of the participating in this behaviour during the 24 to 30 month follow-up period. Participants receiving DDP reported no suicide attempts from 6 to 12 months and they remained free from attempts during the 24 to 30 month free from				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						significantly more suicide attempts during 6 to 12 months of treatment than did DDP participants, but were no longer reporting suicide attempts during the 24 to 30 month follow-up. DDP participants displayed significant improvement in heavy drinking behaviour from baseline to 30 months and a large repeated measures treatment effect. OCC participants reported significantly more heavy drinking at 12 months than those receiving DDP and did not display significant change over time. However, OCC participants made some improvement in this behaviour during the naturalistic follow-up phase of the study				
						such that there was				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						only a trend for between-group statistically significant differences by 30 months. Recreational drug use completely remitted by the end of treatment with DDP and was still in remission at 30-month follow-up, demonstrating a large repeated measures effect size over the course of the study. For OCC participants, recreational drug use slightly worsened over time. At 30-month follow-up, most of the OCC participants (n = 5) were using recreational drugs. Social and occupational functioning tended towards greater improvement among DDP than OCC				
						participants. Although between-				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						group differences were not statistically significant, perceived social support, as measured by SPS scores, significantly improved for DDP participants at 30 months compared with baseline. Improvement in paid employment days trended towards significance.				
Gregory, R.J., Remen, A.L., Soderberg, M., & Ploutz- Snyder, R.J. (2009). A controlled trial of psychodynamic psychotherapy for co-occurring borderline personality disorder and alcohol use disorder: Six- month outcome. Journal of the American	RCT Level II This is an ongoing 30 month controlled study but only preliminar y 3 and 6 month outcomes are reported in this paper	N=30 Treatment n = 15 Control n = 15	Age mean (SD): Total sample 28.7±7.7 Gender: female 80% in total sample Diagnosis: Participants included 30 adults, ages 18 to 45, meeting the DSM-IV diagnostic criteria for BPD and	Dynamic deconstructive psychotherapy (DDP) is a time-limited, manual-based treatment that was developed for patients with BPD who are particularly difficult to engage in a therapeutic relationship, including those having co-occurring substance use disorders. The model employs	Treatment as usual (TAU) in the community	Summary: Both DDP and TAU showed declines on a number of measures including suicidal/self harming behaviour and intoxication, but only small differences between groups. Detail: At 6 months: Risk for parasuicidal behaviour in the DDP group decreased by 38%, as against an increase in relative risk of 35% for TAU. Even for participants who continued to	Parasuicidal behaviour, episode of intoxication, drinking days, days using elicit substances, institutional care, inpatient days, emergency room visits, detail on the actual measures was not provided.	3 and 6 month	Relative risks: Parasuicidal behaviour: DPP -38%; TAU 35% Episode of intoxication: DPP -31%; TAU 31% Institutional care: DPP -55%; TAU 32% Effect sizes could not be calculated due to lack of information	This was a poster summary in a peer reviewed journal. During the first six months, both treatment groups received approximately the same number of individual treatment contact hours/month (4.4 +/- 1.5 DDP vs. 4.0 +/- 3.6 TAU), but the TAU participants

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Association,			alcohol	object relations		behaviour, the				hours of group
57(1), 199-205.			abuse or	theory,		number of incidents				therapy (0.36 +/-
			dependence,	deconstruction		decreased by 64%,				0.92 DDP vs. 2.6
USA			determined	philosophy, and		indicating a harm-				+/- 5.2 TAU),
			by	neurocognitive		reduction benefit.				suggesting that
			structured	research to		The relative risk for				TAU represents
			diagnostic	delineate specific		an episode of				a high
			interviews	integrative		intoxication				treatment-
				functions of the		decreased by 31% for				intensity
			Exclusion:	self that are		both treatment				comparison
			Exclusion	targeted for		groups over six				group. Study
			criteria	treatment over		months. Mean				retention rates
			included	sequential stages,		number of drinking				have been
			primary	including		days decreased by				equivalent (27%
			psychotic	functions of		approximately half in				for both groups
			disorder,	association,		both groups (53% for				at six months).
			neurological	attribution, and		the DDP group; 48%				However,
			diagnosis, or	alterity. The		for TAU). The mean				therapist
			mental	treatment aims to		number of days using				retention rates
			retardation	support		illicit substances				differed
				integrative self-		decreased 54% for				markedly
				functions and to		DDP and 25% for				between the
				deconstruct		TAU.				treatment
				pathological		The relative risk of				groups (73%
				attributions that		institutional care				DDP vs. 18%
				can interfere with		decreased by 55% for				TAU).
				a therapeutic		DDP and 32% for				
				alliance. The		TAU. In addition, the				QC
				therapist		mean number of				1.1=A
				attempts to foster		inpatient days				1.2=B
				verbalization and		decreased by 94% for				1.3=D
				integration of		DDP and 64% for				1.4=F
				patient		TAU. The mean				1.5=E
				experiences,		number of visits to				1.6=C
				narratives, and		the emergency				1.7=E

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
				attributions while remaining generally nondirective and nonjudgmental, and relying on moment-by-moment affective responses of both patient and therapist to inform the appropriate intervention. Problematic behaviours, including alcohol misuse, are viewed as maladaptive coping mechanisms and are explored nonjudgmentally within the context of interpersonal narratives		department decreased by 93% for DDP and 86% for TAU.				1.8=27% retention in both groups at 6 months 1.9= D 1.10=D 2.1 = not enough detail to make a judgement

Motive oriented therapeutic relationship (MOTR)

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Kramer, U.,	RCT	Treatment	Age mean (SD)	Motive-oriented	TAU - 10	Summary: Patient	MINI for axis	Outcomes	Between	MOTR
Berger, T.,	Level II	n = 11	Treatment	therapeutic	session early-	ratings of	1	measured	treatment	condition had
Kolly, S.,			30.29±12.43	relationship	phase TAU for	therapeutic alliance		after 10	groups effect	significantly
Marquet, P.,		Control	Control 31.27±8.21	(MOTR, also	patients	were improved in	SCID-II for	treatment	sizes:	fewer drop-
Preisig, M.,		n = 14		called	presenting with	the MOTR group	axis II	sessions -	OQ- total	outs (2; 18%),
De Roten,			Gender – female	complementary	BPD.	compared to the		no longer	d = 0.52	compared with
Y.,			Treatment 57.14%	therapeutic	Therapists	TAU group but no	Therapist	term	OQ-symptoms	the control
Despland,			Control 81.81%	relationship) +	followed a	other differences	adherence:	follow-up	d = 0.32	condition (8;
J.N., Caspar,				control TAU – 10	manual-based	were found	PA and		OQ-	57%)
F. (2011).			Diagnosis: BPD via	sessions	psychiatric and	Detail: Therapeutic	MOTR scale		interpersonal	
Effects of			Structured Clinical	This group	psychotherapeu	outcome measured	Psychothera		problems	The results of
motive-			Interview for DSM-	received the	tic approach.	using residual gains	peutic		d = 0.86	the MOTR—as
oriented			IV (SCID-II).	control condition	The imperatives	on the OQ-45	results		OQ- social role	an
therapeutic			Additional	with additional	of the manual	questionnaire	(subscales of		d = 0.38	operationalizat
relationship			diagnoses:	MOTR and plan	are (1)	between intake and	symptomatic			ion of the
in early-			Treatment: 1	analysis (PA). The	Establishment	discharge did not	level,		WAI	responsiveness
phase			agoraphobia, 1	duration,	of reliable	show an overall			Therapeutic	concept—are
treatment			alcohol abuse, 1	contents, and	psychiatric	effect. However, on	interpersona		alliance –	consistent with
of			major depression, 1	objectives of the	diagnoses,	the subscale level,	1		patients	the hypothesis
borderline			bulimia, 1 anorexia,	MOTR-based	including	the domain of	relationships		d = 0.51	of a differential
personality			1 schizoid	treatments were	comorbidities	interpersonal	, and social		WAI	impact of this
disorder: A			personality	exactly the same	and other	problems assessed	role):		Therapeutic	relational-
pilot study			disorder	as in the control	problem areas,	using the OQ-45	Outcome		alliance –	technique
of a			Control: 1 panic	condition; MOTR	and	was significant,	Questionnair		therapist	variable on the
randomized			disorder, 1 alcohol	"infuses" the	communication	which indicates	e 45.2 (OR-		d = 0.32	interpersonal
trial. Journal			abuse, 2 major	process from	of this	that the reduction	45)			level in
of Nervous			depression, 1	session 2 to 10;	information to	of interpersonal	,		Effect sizes of	patients
and Mental			somatoform	no sessions were	the patient; (2)	problems is larger	Therapeutic		change in	presenting
Disease,			disorder, 1	added. MOTR is	Establishment	in the MOTR	alliance:		scores over	with BPD. This
199(4), 244-			paranoid	implemented	of psychiatric	condition than in	Working		time using	pilot study
250.			personality	after the intake	anamnesis; (3)	the control	Alliance		treatment	showed an
			disorder	session which	Identification of	condition. No other	Inventory—		group as a	excellent
Switzerland				serves the	the main	subscale was	Short Form		factor	feasibility of an
			Exclusion: Inclusion	therapist as data	problems to be	significant in the	(WAI)		(coefficient,	add-on RCT

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			criteria were a	for the	treated and	between-group	Therapeutic		SE):	design on an
			main diagnosis of	establishment of	establishment	comparison.	impact: Bern		WAI patient:	individualized
			BPD (APA, 1994),	the PA and the	of treatment	Therapeutic	Post-Session		0.87 (0.13)	responsiveness
			being aged	ensuing MOTR.	focus; (4)	alliance:	Report		WAI therapist:	procedure,
			between 18 to 60	PA an integrative	Definition of	Significant	(BPSR)		0.70 (0.67)	implemented
			and speaking	method serving	short-term	difference			BPSR-P	in early-phase
			French; exclusion	case	objectives and	favouring MOTR for			Resource	treatment for
			criteria were an	conceptualization	general	the patient's			activation 1:	BPD.
			organic disorder or	and the ensuing	enhancement of	ratings of			0.05 (0.32)	Focus on
			a persistent	relational-	motivation; (5)	therapeutic			BPSR-P	process
			substance	technique	Identification of	alliance, but no			Resource	variables
			abuse/dependence	variable of MOTR.	and dealing	difference was			activation 2:	rather than
			which might affect	The main focus of	with treatment-	found for the			0.17 (0.28)	broader
			brain function	PA according to	interfering	therapist's rating of			BPSR-P	outcome
			(memory, level of	Caspar is the	problems; and	therapeutic alliance			Contentment:	variables
			consciousness,	instrumentality of	(6) Formulation	(measured on a			0.47 (0.32)	
			cognitive abilities)	behaviour and	of relational	restricted sample			BPSR-P	QC
			and a psychotic	experience: based	interpretations	of treatment			Therapeutic	1.1=A
			disorder implying	on the patient's	of core	completers). The			relationship:	1.2=B
			pronounced break	verbal, and	conflictual	patients receiving			0.59 (0.29)	1.3=A
			in reality testing	nonverbal	themes. One	the MOTR-			BPSR-P	1.4=F
			(chronic or	behaviour, which	session per	treatments rated			Problem	1.5=A
			intermittent), such	are manifest in-	week was given;	that the			actuation	1.6=A
			as schizophrenia,	and between	if necessary,	therapeutic alliance			0.32 (0.35)	1.7=B
			delusional disorder,	sessions, the	short-term	was better and			BPSR-P	1.8=Treatment
			bipolar affective	therapist makes	inpatient	increased more			Mastery: 0.22	: 18% drop out;
			disorder I, an acute	inferences about	treatment was	strongly, compared			(0.27)	Control 57%
			risk of suicide or	the implied Plans	organized, as	with the control			BPSR-P	drop out;
			severe cognitive	and motives,	was adjunct	treatments.			Clarification:	Intention to
			impairment.	answering the	pharmacothera	With respect to the			0.22 (0.30)	treat analyses
			·	question "Which	ру	patient's in-session				conducted
				conscious or	' '	experience,				1.9= B
				unconscious		comparing actual				1.10=E
I				purpose could		means between the				2.1 = (+)
				underlie a		groups did not yield				, ,

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				particular aspect of an individual's behaviour or experience?"		any significant difference. However, the quality of the therapeutic relationship, as rated by the patient, increased more strongly over the course of the MOTR treatment, compared with the control condition. All the other subscales of the BPSR-P did not differ between the groups with regard to the slope over time				

Psychoeducation

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length	Effect	Comments
Country	Design/		Age					of	Size	
	Level of		Gender					follow-		
	Evidence		Diagnosis					up		
			Other							
Zanarini,	RCT	N= 50	Age mean (SD) in total	Psychoeduca	Waitlist	No significant difference in BPD	Structured	12	Between	QC
M.C., &	Level II		sample 19.3 ± 1.4	tion on BPD	(took part in	symptoms on ZAN-BPD between	Clinical	weeks	group	1.1=B
Frankenburg,		Treatment	Gender – all female	aetiology,	workshop at	groups over time. The mean	Interview		standardised	1.2=B
.R. (2008). A		n = 30		phenomenol	the end of	scores of the groups as a whole	for DSM-IV		mean	1.3=C
preliminary,			Diagnosis - BPD	ogy, co-	the 12 week	declined significantly over time.	Axis I		differences,	1.4=F
randomized		Control	diagnosed with	occurring	study)	Declines in interpersonal	disorders		d (95% CI):	1.5=A
trial of		n = 20	Diagnostic Interview	disorders,		storminess and general	Zanarini		Two forms	1.6=A
psychoeducat			for DSM-IV Personality	treatment		impulsivity (not counting self-	Rating		of	1.7=A
ion for			Disorders and Revised	options and		mutualisation or suicide) were	Scale for		impulsivity,	1.8=no
women with			Diagnostic Interview	longitudinal		found to be significantly greater	DSM-IV		d = -0.40	drop out
borderline			for Borderlines.	course		among those in the immediate	BPD (ZAN-		(-0.97,	1.9= A
personality			These participants			treatment group than the	BPD)		0.174)	1.10=F
disorder.			were being diagnosed			waitlist.	Sheehan		Stormy	2.1 = (+)
Journal of			for the first time.			There was no significant	Disability		relationships	
Personality			Additionally in terms of			difference in SDS impairment	Scale (SDS)		, d = -0.381	
Disorders,			lifetime disorders, 78%			ratings between groups. In	Knowledge		(-0.952,	
22(3), 284-			met criteria for a mood			vocational or social functioning	of aspects		0.190)	
290			disorder, 40% met			over time. There was a trend for	of BPD		Other details	
			criteria for a substance			vocational but not social			not reported	
USA			use disorder, 28% met			functioning to improve over time			to calculate	
			criteria for an anxiety			for the group taken as a whole.			effect sizes	
			disorder and 50% met			Knowledge of BPD increased (6%				
			criteria for an eating			answered 6+ questions at				
			disorder.			baseline but 78% answered 6+				
			Exclusion: current			correctly after).				
			psychiatric treatment,			Immediate psychoeducation after				
			met criteria for			diagnosis can lead to reductions				
			lifetime/current			in interpersonal storminess and				
			schizophrenia,			general impulsivity. This may be				
			schizoaffective			because increased knowledge				
			disorder or bipolar 1 or			may be more useful in helping				
			current substance			people control behaviour rather				
			dependence (except			than affects or cognition.				
			nicotine)							

Clinical Question 8. Which psychosocial therapies are most effective?

Clinical question 8 was combined with clinical question 7.

Note evidence table under Question 7 should include Question 8 as the Committee determined to merge questions 7 and 8 into a single question:

Which **psychological or psychosocial** therapies are most effective?

Clinical Question 9. Which pharmacological therapies maximise benefits while minimising harms? (+ comorbidities)

NICE Guideline summary

The NICE guideline refers to pharmacotherapies on page 211.

Although there were 28 evaluable studies of pharmacological treatments in people with a diagnosis of borderline personality disorder (six of which did not meet inclusion criteria), there were few studies of each individual drug, which makes it difficult to draw firm conclusions. There were no trials of benzodiazepines or of ECT. Also, there were variations in the populations in each study, including inpatients, outpatients and symptomatic volunteers, and those with and without comorbid axis I disorders. This means that there were very few studies for each drug within each setting, and consequently, any calculations have low power. Another problem with this dataset is the large number of outcomes reported by each individual study and the lack of standard outcome rating scales within the research field. This also makes the dataset very hard to analyse. However, a relatively large proportion of the available studies have been published relatively recently, which points to a growing interest in research in this area. This is encouraging for the future. There was some evidence that pharmacological treatments can help to reduce specific symptoms experienced by people with borderline personality disorder including anger, anxiety, depression symptoms, hostility and impulsivity, although this is largely based on single studies. However, there is no evidence that they alter the fundamental nature of the disorder in either the short or longer term. The evidence is weak, and it is far from clear if the effects found are the consequence of treating comorbid disorders. In addition, no drug has UK marketing authorisation for these indications in people with borderline personality disorder. There were too few data to assess quality of life outcomes, self-harm/suicidality (except for omega-3 fatty acids) and service use. It was also not possible to explore potential moderators including:

- % population with bipolar diagnoses
- % psychotic or schizotypal
- high dropout rates.

There were few meaningful data regarding harm, so this was difficult to assess. However, it is well known that treatment with olanzapine can lead to weight gain and diabetes and the use of antipsychotics is associated with significant, and in some cases irreversible, long-term harm, such as tardive dyskinesia. There were no data to suggest that any drug was effective as an overall mood stabiliser in people with borderline personality disorder. There is therefore insufficient evidence for the treatment of borderline personality disorder or of the individual symptoms of borderline personality disorder. However, pharmacological treatments may be appropriate for the treatment of comorbid disorders, such as depression.

The NICE guidelines made several clinical recommendations on the role of drug treatment:

- Drug treatment should not be used specifically for borderline personality disorder or for the individual symptoms or behaviour associated with the disorder (for example, repeated self-harm, marked emotional instability, risk-taking behaviour and transient psychotic symptoms).
- Antipsychotic drugs should not be used for the medium- and long-term treatment of borderline personality disorder.
- Drug treatment may be considered in the overall treatment of comorbid conditions (see Section 8.5.13).
- Review the treatment of people with borderline personality disorder who do not have a diagnosed comorbid mental or physical illness and who are currently being prescribed drugs, with the aim of reducing and stopping unnecessary drug treatment.

NICE included studies – pharmacological treatments (Source - Appendix 16: Characteristics Table for The Clinical Question: Pharmacological treatments)

Amitriptyline vs Haloperidol vs Placebo	SOLOFF1989
Aripiprazole vs Placebo	NICKEL2006
Carbamazepine vs Placebo	DE LA FUENTE1994
Roex vs Placebo	FRANKENBURG2002
	HOLLANDER2001
	HOLLANDER2003
E-EPA (Omega 3) vs Placebo	HALLAHAN2007
	ZANARINI2003
Fluoxetine plus DBT vs Placebo plus DBT	SIMPSON2004
Fluoxetine plus IPT vs Fluoxetine plus CT	BELLINO2007
Fluoxetine vs Fluoxetine plus IPT	BELLINO2006B
Fluoxetine vs Olanzapine vs Combined Fluoxetine plus Olanzapine	ZANARINI2004
Fluvoxamine vs Placebo	RINNE2002
Haloperidol vs Phenelzine vs Placebo	SOLOFF1993
Lamotrigine vs Placebo	TRITT2003
Loxapine vs Chlorpromazine	LEONE1982
Olanzapine + DBT vs Placebo + DBT	SOLER2005

Olanzapine vs Placebo	BOGENSCHUTZ2004
	ELILILLY#6253
	SCHULTZ2008
	ZANARINI2001
Topiramate vs Placebo	LOEW2006
	NICKEL2004
	NICKEL2005
Ziprasidone vs Placebo	PASCUAL2008

Updated search

Summary

There are now a number of systematic reviews of pharmacological interventions for BPD. Most SRs were well conducted and reported but all reviewed small numbers of studies in each category and most of the included studies had small sample sizes. The heterogeneity of outcomes measured made pooling data difficult. Many studies have found positive effects of pharmacotherapy on a range of symptoms including global symptoms/psychopathology and pharmacotherapies appear to be effective for some co-occurring problems. There was stronger evidence for the effectiveness of mood stabilisers than other pharmacotherapies. Antipsychotics showed some effects, as did some anticonvulsants, but there was little evidence for effectiveness of antidepressants. However, caution is required interpreting these results because of the paucity and heterogeneity of the studies. There have been a number of RCT studies, many with small samples, that have been conducted since the reviews; similar results were found.

Summary table (Systematic reviews)

Reference	Quality/comments	Antidepressants	Mood stabilisers	Antipsychotics	Anticonvulsants	Other
Bellino 2008	-	MAOIs - may help with	Lithium - some effect on core	Tiotixene, Trifluoperazine,	NA	NA
		atypical depression,	pathology but can be toxic	Haloperidol, Olanzapine,		
	This was a poor	anger and impulsivity	and potentially fatal in	Aripiprazole showed some		
	quality study –	independent of	overdose	effects on a range of		
	search strategy and	antidepressant effects		symptoms: global		
	methodology not		Carbamazepine - Some effect	symptoms, depression,		
	clearly outlined and	Tricyclics - modest effect	on wide range of symptoms	anxiety, paranoid ideation,		
	did not assess quality	and high potential for	including impulsive aggressive	psychotic symptoms,		
	of included studies.	harm	behaviour and effective	obsessive symptoms,		
	Number of included		dysregulation	rejection sensitivity,		
	studies for each drug	SSRIs - may help with		suicidal attempts,		
	was small.	affective instability and	Lamotrigine ⁷ - highly	impulsive aggression,		
		emotional dyscontrol	significant improvement in	chronic dysphoria		
			anger was observed after 8			
			weeks of one trial	Risperidone – no effect		

⁷ Lamotrigine and topiramate are anticonvulsants but also used as a mood stabiliser. They are reported under the category reported by the authors of the studies

Reference	Quality/comments	Antidepressants	Mood stabilisers	Antipsychotics	Anticonvulsants	Other
Duggan	++	NA	NA	Reduction in cognitive	Reduction in aggression	NA
2008				perceptual and mental		
				state disturbance		
Ingenhoven	++	No evidence for effect	Very large effect on impulsive	Atypicals do not	NA	NA
2010		on impulse control,	behavioural dyscontrol, anger,	outperform classic		
		depressed mood, global	anxiety. Moderate effect on	neuroleptics		
		functioning. Small effect	depressed mood.	·		
		on anxiety and anger	·			
		, ,	More pronounced effect than			
		Use is not supported nor	antipsychotics on global			
		is the combined use with	functioning			
		antipsychotics				
Lieb 2010	+	Little evidence for	Effects for valproate,	Haloperidol reduced	NA	Omega 3 fatty acids
		effectiveness	lamotrigine and topiramate	anger, flupenthixol		may reduce
			but not carbamazepine	reduced suicidal		depressive symptoms
				behaviour, aripiprizole		but few studies
				reduced pathology		
Mercer	+	Moderately effective for	Highly effective for anger,	Moderate effect on anger,	NA	NA
2009		short term reduction of	moderately effective for	depression. Some		
		depression	depressed mood	evidence that haloperidol		
				may worsen depression		
Stoffers	++	Little evidence for	NA	Olanzapine may increase	NA	NA
2010		effectiveness. May help		self harming, weight gain		
		for comorbidity				
Varghese	++	NA	NA	NA	NA	Topiramate resulted
2010						in reduction in state
						anger, anger out,
						hostility, anger in but
						not trait anger

Summary table (Randomised trials)

Reference	Quality/ comments	Antidepressants	Mood stabilisers	Antipsychotics	Anticonvulsants	Other
Leiberich 2008	+				Lamotrigine - significant reduction in anger and aggression measured by the STAXI than placebo No serious side effects but some adverse events during the trial: selfmutilation (LG), attempted suicide (placebo) and weight loss (both)	
Loew 2008	+				Topiramate - reduction in aggressive behaviour, anxiety and phobias, obsessiveness, depression, paranoia, interpersonal problems, pain. Improved health and activity related measures, and affective instability. No effect on psychoticism. Mildmoderate side-effects usually with initiating or increasing dose.	
Shafti 2010	+			Both olanzapine and haloperidol improved but no difference between them – no placebo control group		
Ziegenhorn 2009	-					Significant improvement in hyperarousal for patients with PTSD for clonidine compared to control but not measures of general psychopathology or BPD symptoms. Mild adverse effects reported

Evidence tables

Systematic Reviews

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Bellino, S., Paradiso, E., Bogetto, F. (2008) Efficacy and tolerability of pharmacoth erapies for borderline personality disorder. CNS Drugs. 22(8), 671- 92. Italy	SR Level I	N = 27 These are reviewed for 3 TX interventions: 1) ADs, 2) Mood stabilizers and 3) APs	1) Efficacy and Tolerability of Antidepressan t Agents ADs - MAOIs, Tricyclic and Heterocyclic ADs and SSRIs - 8 studies were included: TX length ranged from 5 - 14 weeks, number of participants ranged from 10 - 108. 2) Efficacy and Tolerability of Mood Stabilizers MS - Lithium, Carbamazepin e, Valproate semisodium	1)Efficacy and Tolerability of Antidepressan t Agents MAOIs - 3 studies Tricyclic and Heterocyclic Ads - 2 studies SSRIs - 4 studies 2) Efficacy and Tolerability of Mood Stabilizers Lithium - 1 study Carbamazepin e - 2 studies Oxcarbazepin e - 0 studies Valproate semisodium - 3 studies Lamotrigine -	Varied by study	Summary: MAOIs - may help with atypical depression, anger and impulsivity independent of antidepressant effects. Tricyclics - modest effect and high potential for harm. SSRIs - may help with affective instability and emotional dyscontrol. Lithium - some effect on core pathology but can be toxic and potentially fatal in overdose. Carbamazepine	No outcome measures stated	Not stated	Not reported	Not very clear SR, methods are vague and little detail is given clearly in results, the tables lack detail, the review is more descriptive. Studies have small sample sizes, short durations and high drop outs. Heterogeneit y of selection criteria and outcome measures (no detail).
			and Lamotrigine – 7 studies were	1 study		- Some effect on wide range of symptoms				1.2 =D 1.3 =C 1.4 =D

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			included: TX	3) Efficacy and		including				1.5 =B
			length ranged	Tolerability of		impulsive				2.1 (-)
			from 6-12	Antipsychotics		aggressive				
			weeks,	First		behaviour and				
			number of	generation		effective				
			participants	antipsychotics		dysregulation.				
			ranged from	Tiotixene – 2		Lamotrigine -				
			10 – 52. Some	studies		highly				
			inpatients and	Trifluoperazin		significant				
			outpatients.	e – 1 study		improvement in				
				Haloperidol –		anger was				
			3) Efficacy and	2 studies		observed after 8				
			Tolerability of	Atypical		weeks of one				
			Antipsychotics	antipsychotics		trial. Tiotixene,				
			APs – First	Risperidone –		Trifluoperazine,				
			generation	1 study		Haloperidol,				
			and atypical	Olanzapine – 4		Olanzapine,				
			AP – 11	studies		Aripiprazole				
			studies were	Ariprazole – 1		showed some				
			included: TX	study		effects on				
			length ranged			global				
			from 6 – 12			symptoms,				
			weeks,			depression,				
			number of			anxiety,				
			participants			paranoid				
			ranged from 16 -108.			ideation, psychotic				
			10 -108.			symptoms,				
						obsessive				
						symptoms,				
						rejection				
						sensitivity,				
						suicidal				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						attempts,				
						impulsive				
						aggression,				
						chronic				
						dysphoria				
						Risperidone –				
						no effect				
						Detail:				
						Antidepressant				
						Agents				
						MAOIs - can				
						useful in				
						treating BPD				
						with main				
						effectiveness on				
						symptoms of				
						atypical				
						depression,				
						anger and				
						impulsivity. The				
						effects are				
						considered to				
						be independent				
						of the anti-				
						depressive				
						action of these				
						drugs.				
						Tricyclic and				
						Heterocyclic				
						Ads – response				
						to TCAs in				
						patients with				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						BPD appears				
						modest. The risk				
						of behavioural				
						toxicity and				
						potential				
						lethality of TCAs				
						in overdose				
						support the use				
						of SSRIs or				
						other Ads.				
						SSRIs – (in				
						particular				
						fluoxetine and				
						fluvoxamine)				
						were found to				
						be efficacious in				
						treating BPD.				
						The				
						effectiveness of				
						the drugs				
						concerned				
						symptoms of				
						effective				
						instability				
						(depression,				
						anxiety and				
						anger) and				
						impulsive				
						dyscontrol				
						(verbal				
						aggression and				
						aggression				
						against				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			objects).Risk of				
						toxicity is lower.				
						Mood				
						Stabilizers				
						Lithium – one				
						crossover study				
						showed efficacy				
						of lithium on				
						core features of				
						BPD but was a				
						small study, 10				
						participants for				
						6 weeks.				
						Lithium can be				
						toxic. Can be				
						fatal in				
						overdose so				
						caution with				
						suicide risk is				
						advised.				
						Carbamazepine				
						– Limited data –				
						Suggestion of				
						effectiveness of				
						carbamazepine				
						on wide range				
						of symptoms,				
						including				
						impulsive				
						aggressive				
						behaviour and				
						effective				
						dysregulation.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						One study				
						reported link to				
						melancholic				
						depression.				
						Oxcarbazepine				
						– No RCTs				
						reported.				
						Valproate				
						semisodium –				
						Limited data –				
						only open label				
						studies. Some				
						success with				
						impulse				
						aggression.				
						Potential dose				
						related effects.				
						Lamotrigine –				
						Limited data – A				
						highly				
						significant				
						improvement in				
						anger was				
						observed after 8				
						weeks of one				
						trial.				
						Antipsychotics -				
						First generation				
						antipsychotics				
						Tiotixene – 2				
						studies -				
						Reduction in				
						global				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						symptomatolog				
						y, depression,				
						anxiety and				
						paranoid				
						ideation,				
						reduction in				
						psychotic				
						symptoms,				
						obsessive				
						symptoms				
						Trifluoperazine				
						reduction in				
						depression,				
						anxiety, and				
						rejection				
						sensitivity and				
						reduction in				
						suicidal				
						attempts vs.				
						placebo				
						Haloperidol –				
						Reduction in				
						global				
						symptomatolog				
						y, depression,				
						anxiety and				
						paranoid				
						ideation,				
						reduction in				
						psychotic				
						symptoms,				
						obsessive				
						symptoms				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						Antipsychotics - Atypical antipsychotics Risperidone – no sig difference Olanzapine – reduction in impulsive aggression, chronic dysphoria, reduction in anxiety, paranoia and global symptomatolog y. Aripiprazole – reduction in global psychopatholog y, depression and anxiety.				
Duggan, C., Huband, N., Smailagic, N., Ferriter, M., Adams, C. (2008) The use of pharmacolo gical	SR Level 1	N=35 A total of 35 studies described pharmacol ogical interventio ns for people	AGE RANGE (18 - 62) = 18 studies No Age Range = 11 studies GENDER Male and Females = 18	Olanzapine vs. placebo = 2 studies Carbamazepin e vs. placebo = 1 study Divalproex sodium vs. placebo =4	Placebo + others listed under intervention.	Summary: This review identifies a very limited evidence base to justify intervening with drugs in this group.	Quality of Life (SF36) = 1 study BDI = 2 studies BIS = 1 study IMPS = 2	12 weeks = 2 studies, 32 days + washout = 1 study, 6 months = 3 studies, 12 weeks + washout = 2	Mean differences (MD, 95% CI) provided for individual studies and weighted mean differences (WMD, 95% CI) provided for >1 study.	Search only up to 31 Dec 2006. QC 1.1 =A 1.2 =A 1.3 =A 1.4 =A

Ref, Study Country Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
treatments for people with personality disorder: A systematic review of randomized controlled trials. Personality and Mental Health. Jul; 2(3), 119- 70. UK	with a variety of personality disorders. Studies reviewed included diagnostic category for BPD	studies Females = 12 studies Males = 1 study SETTING Outpatient = 16 studies Outpatient and community = 1 study Community = 8 studies Inpatient = 3 studies Multicentre = 1 study Not stated = 1 study	studies Thiothixene hydrochloride vs. placebo = 1 Fluoxetine vs. Nortriptylyne = 1 study Loxapine succinate vs. Chlorpromazin e = 1 study Topiramate vs. placebo = 3 studies Mianserin vs. placebo = 1 study Aripiprazole vs. placebo = 1 study Naloxone vs. placebo = 1 study Clonidine vs. clonidine = 1 study Fluoxamine vs. placebo = 1 study Fluoxetine vs. placebo = 1 study		The main positive findings were those favouring the use of anticonvulsants to reduce aggression, and of antipsychotics to reduce cognitive perceptual and mental state disturbance. However, there were major methodological deficiencies in the trial designs, including small numbers of participants and limited duration of treatment and follow-up.	studies SCL-90 = 2 studies SSI = 2 studies Stic = 2 studies WSIAP = 2 studies HDQ = 1 study STAXI = 2 studies HAM (VARIOUS) = 8 studies Behaviour (BPD SI) = 1 study Behaviours (VARIOUS AGGRESSION) = 4 studies Behaviour — suicide attempt = 2	studies, 10 weeks = 2 studies, 12 weeks + tapering = 1 study, 12 weeks + placebo runin = 1 study, 6 weeks + 6 month, follow up = 1 study, 8 weeks = 1 study, 8 weeks = 6 studies, 6 - 35 days = 1 study, 4 - 16 days = 1 study, 24 weeks = 1 study, 3 months + washout = 1 study, 5 weeks + washout = 2 studies, 52 weeks + placebo washout = 1 study.	Cognitive-perceptual thinking: Paranoid thinking (aripiprazole) MD: -8.10 (-12.21, -3.99) Psychoticism (aripiprazole) MD: -6.20 (-8.94,-3.46) Somatization (topiramate) MD -6.80 (-9.97,-3.63) Depression: SCL-90 (anticonvulsant) WMD -0.57 (-1.27, 0.13); HAM-D (atypical antipsychotic) WMD -3.98 (-5.70, -2.26), SCL-90-R (aripiprazole) MD -16.40 (-20.88, -11.9); POMS (fluoxetine) risk ratio 0.26 (0.09, 0.72); HAM-D (phenelzine vs. haloperidol) MD -7.86 (-10.51, -5.21) favours	1.5 =A 2.1 (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				Thiothixene			studies		phenelzine.	
				hydrochloride			Behaviour		Anger	
				VS.			(impulsivity) =		STAXI State anger	
				Haloperidol =			2 studies		(anticonvulsants)	
				1 study					WMD -6.66	
				Fluoxetine +			Behavioural		(-7.63, -5.68),	
				DBT vs.			dyscontrol		(aripiprazole) MD	
				placebo +DBT			(acting out,		-7.70 (-10.1,-5.39)	
				= 1 study			AOS) = 1 study		STAXI Trait anger	
				Olanzapine +					(anticonvulsant)	
				adapted DBT			Behaviour		WMD -3.89	
				vs. placebo +			(self injury) =		(-4.84, -2.93),	
				adapted DBT=			2 studies		(aripiprazole) MD	
				1 study					-5.90 (-8.04,-3.76)	
				Haloperidol					STAXI Anger in	
				vs. Phenelzine					(anticonvulsant)	
				sulphate vs.					WMD -1.11	
				placebo = 1					(-1.64, -0.57),	
				study					(aripiprazole) MD	
				Lamotrigine					-4.20 (-5.79,-2.61)	
				vs. placebo = 1					STAXI Anger out	
				study					(anticonvulsant)	
				Omega 3 fatty					WMD -5.09	
				acid vs.					(-5.75, -4.43),	
				placebo =1					(aripiprazole) MD	
				study					-6.40 (8.27, -4.53)	
				Olanzapine vs.					STAXI Anger	
				Fluoxetine vs.					control	
				Olanzapine +					(anticonvulsant)	
				fluoxetine = 1					WMD 2.64 (2.22,	
				study					3.07),	
				Paroxetine vs.					(aripiprazole) MD	
				placebo = 1					2.70 (0.53, 4.87)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				study					SCL-90	
				Haloperidol					Anger/hostility	
				VS.					(anticonvulsant)	
				Amitriptyline					WMD -0.91	
				vs. placebo = 1					(-1.37, -0.45),	
				study					(aripiprazole) MD	
				Nortriptyline					-8.50 (-12.48,	
				VS.					-4.52)	
				Bromocriptine					POMS Anger	
				vs. placebo = 1					(fluoxetine) risk	
				study					ratio 0.30 (0.10,	
				CBT vs.					0.85)	
				Moclobemide					BDHI Hostility	
				vs. placebo = 1					(phenelzine) MD	
				study					-9.19 (-16.12,	
				Amantadine +					-2.26)	
				Std. care vs.					Anxiety IMPS	
				Desipramine +					intropunitiveness	
				Std. care vs.					(conventional	
				placebo + Std.					anti-psychotic)	
				care = 1 study					WMD -0.36	
				Risperidone					(-3.30, 2.58),	
				vs. placebo = 1					(phenelzine) MD	
				study					-3.88 (-7.51,-0.25)	
				Fluoxetine					HAM-A general	
				hydrochloride					anxiety (atypical	
				vs. placebo = 1					anxipsychotic)	
				study					WMD -2.62	
				Fluphenazine					(-4.52, -0.72)	
				decanoate vs.					SCL-90-R general	
				Fluphenazine					anxiety	
				decanoate = 1					(topiramate) MD	
				study					-6.30 (-8.63,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				Desipramine +					-3.97),	
				Std.					(aripiprazole) MD	
				Methadone					-9.10 (-12.55,	
				treatment vs.					-5.65)	
				placebo + Std.					SCL-90-R phobic	
				Methadone					anxiety	
				treatment = 1					(topiramate) MD	
				study					-4.10 (-6.72,	
									-1.48),	
				Two studies					(aripiprazole) MD	
				(Simpson et					-5.70 (-10.33,	
				al., 2004;					-1.07)	
				Soler et al.,					SCL-90-R	
				2005) used a					interpersonal	
				drug plus DBT					sensitivity	
				in the active					(divalproex	
				treatment					sodium) MD -0.70	
				arm, but in					(-1.30, -0.10)	
				both cases					SCL-90-R	
				compared it					insecurity in	
				with a placebo					social contact	
									(topiramate) MD	
									-6.80 (-10.63,	
									-2.92),	
									(aripiprazole) MD	
									-4.50 (-7.64 -1.36) Impulsiveness	
									BIS (conventional	
									anti-psychotic)	
									WMD 1.38 (-7.51,	
									10.27)	
									STIC	
									(conventional	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
									anti-psychotic)	
									WMD 1.12 (-0.82,	
									3.07)	
									Global	
									functioning	
									GAS	
									(conventional	
1									anti-psychotic)	
									WMD 1.75 (-2.37,	
									5.86)	
									CGI (divalproex	
									sodium) risk ratio	
									0.58 (0.36, 0.94)	
									GAS (phenelzine	
									vs. haloperidol)	
									MD 5.15 (0.29,	
									10.01) favours	
									phenelzine	
									Social functioning	
									SF-36	
									(topiramate) MD	
									7.70 (4.44, 10.96)	
									Overall	
									symptoms/menta	
									I health IMPS	
									(conventional	
									anti-psychotic)	
									WMD -1.86	
									(-10.85, 7.14)	
									SCL-90-R global	
									severity	
									(aripiprazole) MD	
									-9.30 (-13.22,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
									-5.38),	
									(topiramate) MD	
									-5.90 (-8.47,-3.33)	
									SF-36	
									(topiramate) MD	
									4.50 (1.27, 7.73)	
									Interpersonal	
									symptoms (IIP-D)	
									Overly autocratic/	
									dominant	
									(topiramate) MD	
									-5.30 (-6.15,-4.45)	
									Overly	
									quarrelsome/	
									competitive	
									(topiramate) MD	
									-5.80 (-6.56,-5.04)	
									Overly	
									introverted/	
									social avoiding	
									(topiramate) MD	
									-2.60 (-3.38,-1.82)	
									Overly	
									expressive/	
									importunate	
									(topiramate) MD	
									-3.80 (-4.36,-3.24)	
									Overall physical	
									functioning	
									SF-36 physical	
									functioning	
									(topiramate) MD	
									3.90 (0.99, 6.81)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
									SF-36 Role	
									limitation	
									(topiramate) MD	
									4.00 (0.02, 7.98)	
									Adverse effects	
									Menstrual	
									problems	
									(anticonvulsants)	
									risk ratio 1.31	
									(0.41, 4.16)	
									Any adverse	
									effects in 2 weeks	
									(fluvoxamine) risk	
									ratio 1.62 (1.05,	
									2.51) favours	
									placebo	
									Mild sedation	
									(olanzapine) risk	
									ratio 3.50 (1.23,	
									9.92) favours	
									fluoxetine	
									SF-36 vitality	
									(topiramate) MD	
									6.60 (3.71, 9.49)	
									favours	
									topiramate	
									Nausea	
									(fluvoxamine)	
									risk ratio 4.05	
									(1.01, 16.32)	
									favours placebo	

Ref, Study Country Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Ingenhoven, T., Lafay, P., Rinne, T., Passchier, J., Duivenvoor den, H. (2010) Effectivenes s of pharmacoth erapy for severe personality disorders: Meta- analyses of randomized controlled trials. Journal of Clinical Psychiatry.7 1(1), 14-25. The Netherlands	N = 32 included studies of which n = 21 were subject to meta-analysis.	Adults from inpatient/outp atient settings (6 studies), inpatient only (5 studies) and outpatient settings (21 studies).	Flupentixol IM - 1 study, Thiotixene - 1 study, Trifluoperazin e -1 study, Haloperidol - 3 studies, Olanzapine - 3 studies, Risperidone - 1 study, Aripiprazole - 1 study, Mianserine - 1 study, Tranylcypromi ne- 1 study, Amitriptyline- 1 study, Desipramine- 1 study, Phenelzine - 2 studies, Fluoxetine - 4 studies, Fluoxamine- 1 study, Carbamazepin e -2 studies, Lithium - 1 study, Valproate - 3	Varied by study	Summary: No evidence for effect of antidepressants on impulse control, depressed mood or global functioning. Small effect on anxiety and anger. Mood stabilisers had a very large effect on impulsive behavioural dyscontrol, anger, anxiety. Moderate effect on depressed mood. More pronounced effect than antipsychotics on global functioning. Use is not supported nor is the combined use with antipsychotics.	3 symptom domains: cognitive perceptual symptoms, impulsive-behavioural dyscontrol, affective dysregulation : (4 subdomains) depressed mood, anxiety, anger, mood lability. Global functioning	5 – 26 weeks	Antipsychotics have a moderate effect on cognitive-perceptual symptoms (5 PC-RCTs; standardized mean difference [SMD] = 0.56) and a moderate to large effect on anger (4 PC-RCTs; SMD = 0.69) Antidepressants have a small but significant effect on anxiety (5 PC-RCTs; SMD = 0.30) and anger (4 PC-RCTs; SMD = 0.34). The effect of antidepressants on global functioning is negligible. Mood stabilizers have a very large effect on impulsive-behavioural dyscontrol (6 PC-	QC 1.1 = A 1.2 = A 1.3 = A 1.4 = A 1.5 = A 2.1 (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				studies,		Atypical			RCTs; SMD = 1.51)	
				Lamotrigine- 1		antipsychotics			and anger (7 PC-	
				study,		do not			RCTs; SMD =	
				Topiramate - 3		outperform			1.33), a large	
				studies		classic			effect on anxiety	
						neuroleptics.			(3 PC-RCTs; SMD	
									= 0.80), but a	
						Detail:			moderate effect	
						Antipsychotics			on depressed	
						have a			mood (5 PC-RCTs;	
						moderate effect			SMD = 0.55.	
						on cognitive-			Mood stabilisers	
						perceptual			have a more	
						symptoms.			pronounced	
						Antipsychotics			effect on global	
						have a			functioning (3	
						moderate to			PCRCTs; SMD =	
						large effect on			0.79) than have	
						anger.			antipsychotics (5	
						Antidepressants			PC-RCTs; SMD =	
						have no			0.37).	
						significant				
						effect on				
						impulsive-				
						behavioural				
						dyscontrol and				
						depressed				
						mood.				
						Antidepressants				
						have a small but				
						significant				
						effect on				
						anxiety and				1

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						anger.				
						Mood stabilizers				
						have a very				
						large effect on				
						impulsive				
						behavioural				
						dyscontrol.				
						Mood stabilizers				
						have a very				
						large effect on				
						anger.				
						Mood stabilizers				
						have a very				
						large effect on				
						anxiety.				
						Mood stabilizers				
						have a				
						moderate effect				
						on depressed				
						mood.				
						Mood lability as				
						an outcome				
						measure was				
						seldom				
						assessed.				
						Mood stabilizers				
						have a more				
						pronounced				
						effect on global				
						functioning than				
						have				
						antipsychotics.				
						The effect of				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						antidepressants				
						on global				
						functioning is				
						negligible.				
						The review				
						suggests that				
						atypical				
						antipsychotics				
						do not				
						outperform the				
						classic				
						neuroleptics.				
						With respect to				
						impulsive-				
						behavioural				
						dyscontrol, the				
						prevalent use of				
						antidepressants				
						(SSRIs) is not				
						validated by this				
						meta-analysis,				
						nor is the				
						second step of				
						adding a				
						traditional				
						antipsychotic				
						drug.				
						Modern mood				
						stabilizers seem				
						to deserve a				
						more prominent				
						position.				
						Prescribing				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			SSRIs as first				
						and second steps in the				
						treatment of				
						affective				
						dysregulation				
						seems out-				
						dated since				
						mood stabilizers				
						have a more				
						pronounced				
						effect.				
						Evidence-based				
						pharmacologic				
						treatment				
						guidelines for				
						severe				
						personality				
						disorders are				
						still in their				
						infancy.				
Lieb, K.,	SR	N= 27	Participants	Olanzapine vs	Varied by	Summary: Little	Primary	Study	Standardised	Authors state
Vollm, B.,	Level I	studies	were adults	placebo – 6	study	evidence for	outcomes	durations	mean difference	that the
Rucker, G.,			from mostly	studies,		effectiveness of	were overall	ranged from	(SMD 95% CI),	robustness of
Timmer, A.,		27 trials	outpatient	Carbamazepin		antidepressants	disorder	5 weeks to	standardised	findings is
Stoffers,		were	settings.	e vs placebo –		. There were	severity as	24 weeks,	mean change	low, since
J.M. (2010)		included in		1 study,		positive effects	well as specific	with a mean	(SMC) or risk ratio	they are
Pharmacoth		which first	There was a	Valproate		for valproate,	core	duration of	(RR, 95% CI)	based mostly
erapy for		and	mix of male	semisodium vs		lamotrigine and	symptoms.	approximate	Effect sizes vs.	on single,
borderline		second	and female	placebo – 2		topiramate but	Secondary	ly 84 days	placebo:	small studies.
personality		generation	participants	studies,		not	outcomes	(s.d. = 54.7).	First generation	
disorder:		antipsycho	ranging from	Thiothixene vs		carbamazepine.	comprised		antipsychotics	QC
Cochrane		tics, mood	16 – 314 with	placebo – 1		Haloperidol	associated		Haloperiodol for	1.1 =A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
systematic		stabilisers,	1714	study, Omega		reduced anger,	psychiatric		anger SMD -0.46	1.2 =A
review of		antidepres	participants in	3 fatty acids vs		flupenthixol	pathology and		(-0.84, -0.09)	1.3 =A
randomised		sants and	total.	placebo – 2		reduced suicidal	drug		Flupentixol	1.4 =A
trials. British		omega-3		studies,		behaviour,	tolerability		decanoate for	1.5 =B
Journal of		fatty acids		Loxapine		aripiprizole			suicidal behaviour	2.1 (+)
Psychiatry.1		were		Chlorpromazin		reduced			RR 0.49 (0.29,	
96(1), 4-12.		tested		e vs placebo -		pathology.			0.92) No proof of	
				1 study,		Omega 3 fatty			efficacy for	
UK				Topiramate vs		acids may			thiothixene.	
				placebo – 3		reduce				
				studies,		depressive			Second-	
				Aripiprazole vs		symptoms but			generation	
				placebo – 1		few studies			antipsychotics	
				study,		Detail:			Aripiprazole for	
				Ziprasidone vs		First generation			anger SMD -1.14	
				placebo - 1		antipsychotics –			(-1.73, -0.55), for	
				study,		The			psychotic	
				Fluvoxamine		comparisons of			symptoms SMD	
				vs placebo - 1		first-generation			-1.05 (-1.64,	
				study,		antipsychotics			-0.47), for	
				Fluoxetine vs		(FGAs) with			impulsivity SMD	
				placebo – 2		placebo yielded			-1.84 (-2.49,	
				studies,		significant			-1.18), for	
				Haloperidol		effects for			interpersonal	
				Phenelzine		haloperidol in			problems SMD	
				sulphate vs		the reduction of			-0.77 (-1.33,	
				placebo – 1		anger and			-0.20), for	
				study,		flupentixol			depression SMD	
				Haloperidol		decanoate in			-1.25 (-1.85,	
				Amitriptyline		the reduction of			-0.65), for anxiety	
				vs placebo – 1		suicidal			SMD -0.73 (-1.29,	
				study,		behaviour. No			-0.17), for general	
				Lamotrigine vs		proof of efficacy			severity of	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				placebo – 1		was found for			psychiatric	
				study,		thiothixene for			pathology SMD	
				Olanzapine,		any outcome.			-1.27 (-1.87,	
				Fluoxetine		Tolerability			-0.67).	
				Olanzapine +		between active			Olanzapine for	
				fluoxetine – 1		and placebo			affective	
				study,		treatment did			instability SMC	
				Flupentixol		not differ in any			-0.16 (-0.32,	
				decanoate vs		comparison.			-0.01), for anger	
				placebo - 1					SMC -0.27 (-0.43,	
				study,		Second			-0.12), for	
				Mianserin vs		generation			psychotic	
				placebo – 1		antipsychotics –			symptoms SMC	
				study.		Among second-			-0.18 (-0.34,	
						generation			-0.03), for anxiety	
						antipsychotics			mean change	
						(SGAs),			difference -0.22	
						aripiprazole was			(-0.41, -0.03), for	
						found to have			suicide ideation	
						both significant			SMC 0.29 (0.07,	
						effects in the			0.50), for	
						reduction of the			suicidality SMD	
						core			0.15 (-0.36, 0.65),	
						pathological			self-harm RR 1.20	
						symptoms of			(0.50, 2.88).	
						BPD, as			No significant	
						investigated by			effects for	
						one trial with 52			ziprasidone.	
						participants. Six			Mood stabilisers	
						trials compared			Valproate	
						olanzapine with			semisodium for	
						placebo; among			interpersonal	
						these were two			problems SMD	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						large studies			-1.04 (-1.85,	
						including			-0.23), for	
						approximately			depression SMD	
						300 participants			-0.66 (-1.31,	
						each.			-1.01), for two	
						Unfortunately,			studies of anger	
						the different			SMD -1.83 (-3.17,	
						formats of			-0.48) and SMD	
						result reporting			-0.15 (-0.91,	
						(end-point vs.			0.61).	
						change data)			Lamotrigine for	
						did not allow			impulsivity SMD	
						pooling of all			-1.62, (-2.54,	
						study estimates			-0.69)	
						for the majority			Topiramate for	
						of outcomes.			interpersonal	
						There were also			problems SMD	
						statistically			-0.91 (-1.36,	
						significant			-0.35), for	
						benefits for the			impulsivity SMD	
						reduction of			- 3.36 (-4.44,	
						anxiety.			-2.27), for anger	
						However,			in males SMD	
						results for			-0.65 (-1.27,	
						suicidal ideation			-0.03), for anger	
						were			in females SMD	
						inconsistent.			-3.00 (-3.64,	
						Mood stabilisers			-2.36), for anxiety	
						– Beneficial			SMD -1.40 (-1.99,	
						effects were			-0.81), for general	
						found for the			psychiatric	
						mood stabilisers			pathology SMD	
						valproate			-1.19 (-1.76,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						semisodium			-0.61)	
						(divalproex			Antidepressants	
						sodium),			Amitriptyline for	
						lamotrigine and			depression SMD	
						topiramate, but			-0.59 (-1.12,	
						not for			-0.06). No	
						carbamazepine.			significant effects	
						Antidepressants			for miansein,	
						- There was			fluoxetine,	
						little evidence			fluvoxamine or	
						of effectiveness			phenelzine	
						for			sulphate.	
						antidepressant			Other drugs	
						treatment.			Omega-3 fatty	
						Other drugs –			acids for	
						For			sucidality RR 0.52	
						supplementary			(0.27, 0.95), for	
						omega-3 fatty			depression RR	
						acids, significant			0.48 (0.28, 0.81)	
						effects were			and SMD -0.34	
						found in one			(-1.15, 0.46).	
						study for the			Tolerability and	
						reduction of			safety ⁸	
						suicidality and			Olanzapine for	
						depressive			adverse events	
						symptoms .			RR 1.13 (1.00,	
						There was also			1.28), for weight	

⁸ Please note blood measures are available but not reported here

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						an effect			gain RR 1.05	
						estimate of a			(0.90, 1.20),	
						second study			increased	
						for depressive			appetite RR 2.78	
						symptoms, but			(1.75, 4.34),	
						because of			somnolence RR	
						different			2.97 (1.75, 5.03),	
						formats of			dry mouth RR	
						reporting it			2.24 (1.08, 4.67),	
						could not be			sedation RR 9.23	
						pooled with the			(2.18, 39.12) and	
						first one.			RR 1.26 (0.44,	
						However, these			3.66).	
						findings also			Topiramate on	
						tended towards			weight loss SMD	
						better results in			-0.55 (-0.91,	
						participants			-0.19).	
						given omega-3			Haloperidol on	
						fatty acids.			weight gain SMD	
						Tolerability and			-0.18 (-0.70, 0.34)	
						safety –			Phenelzine	
						Tolerability did			sulphate on	
						not differ for			weight gain SMD	
						any drug-			0.11 (-0.39, 0.61)	
						placebo			Effect sizes drug	
						comparison, i.e.			vs. drug	
						drug treatment			comparisons	
						was not			Phenelzine	
						associated with			sulphate superior	
						a higher ratio of			to haloperidol for	
						non-completers			depression SMD	
l						than was			-0.68 (-1.19,	
						placebo			-0.17), anxiety	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						treatment.			SMD -0.66 (-1.16,	
						Detailed data			-0.15), general	
						on adverse			psychiatric	
						effects were			pathology SMD	
						available for			-0.53 (-1.03,	
						olanzapine			-0.03), improving	
						treatment.			mental health	
						Participants			status SMD 0.51	
						treated with			(0.01, 1.01).	
						this drug were,			Olanzapine had	
						overall, no more			more weight gain	
						likely to			than fluoxetine	
						experience any			SMD 0.98 (0.20,	
						adverse effect			1.76), and more	
						than were			mild sedation RR	
						members of the			3.50 (1.23, 9.92).	
						control group.			No significant	
						Adverse effects			effect sizes	
						were also			reported for any	
						reported in			other drug vs.	
						detail for			drug	
						topiramate			comparisons.	
						treatment. Data				
						on the				
						frequency of				
						memory				
						problems,				
						trouble in				
						concentrating,				
						headache,				
						fatigue,				
						dizziness,				
						menstrual pain				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
						and				
						paraesthesia				
						were also				
						available for				
						one RCT, with				
						no significant				
						difference in				
						frequency				
						between the				
						topiramate and				
						placebo groups				
						comparison.				
						Drug vs drug -				
						Two FGAs,				
						loxapine and				
						chlorpromazine,				
						were compared				
						in one study				
						with 80				
						participants.				
						Tolerability did				
						not differ				
						significantly.				
						However, there				
						was no usable				
						information on				
						any pathology-				
						related				
						outcome. Two				
						antidepressants				
						were compared				
						with the FGA				
						haloperidol. The				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other							
						tricyclic				
						antidepressant				
						amitriptyline				
						did not differ				
						significantly				
						from				
						haloperidol				
						treatment for				
						any outcome.				
						The monoamine				
						oxidase				
						inhibitor				
						phenelzine				
						sulphate,				
						however,				
						proved to be				
						superior to				
						haloperidol in				
						the reduction of				
						depression and				
						general				
						psychiatric				
						pathology, and				
						in improving				
						mental health				
						status as				
						investigated in				
						one study. No				
						significant				
						effect was				
						found for the				
						comparison of				
						the SGA				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						olanzapine with				
						the				
						antidepressant				
						fluoxetine for				
						any pathology				
						related				
						outcome.				
						Drug vs				
						combination of				
						drugs - One trial				
						tested the				
						effects of				
						olanzapine and				
						fluoxetine				
						separately				
						against their				
						combination.				
						There was no				
						significant				
						difference				
						indicating any				
						benefits from				
						combined				
						treatment vs.				
						treatment with				
						olanzapine or				
						fluoxetine				
						alone.				
						Tolerability did				
						not differ				
						significantly.				
						Detailed data				
						were available				

Country Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
					for body weight change, the frequency of restlessness and mild sedation. There was no significant difference.				
Mercer, D., Douglass, A.B., Links, P.S. (2009) Meta- analyses of mood stabilizers, antidepress ants and antipsychoti cs in the treatment of borderline personality disorder: Effectivenes s for depression and anger symptoms. J Personal Disord.	N = 18 studies were included in the final meta analyses	Adults with more female than males (73% female). Number of participants ranged from 16 – 96. Range of treatment is detailed under interventions. 61% included subject with dysthymia or major depression. 9 of the studies include concurrent TX. 5 studies	Olanzapine vs placebo - 3 studies Fluoxetine vs placebo - 3 studies Tranylcypromi ne trifluoperazine carbamazepin e vs placebo - 1 study? Divalproic acid vs placebo - 3 studies Topiramate - 3 studies Aripiprazole vs placebo - 1	Varied by study	Summary: Antidepressants moderately effective for short term reduction of depression. Mood stabilisers highly effective for anger, moderately effective for depressed mood Antipsychotics moderately effective for anger, depression. Some evidence that haloperidol may worsen depression.	Depression Hamilton Rating Scale for Depression (HDRS) – 7 studies Symptom Checklist – 90 (SCL-90) Depression – 3 studies Beck Depression Inventory (BDI) – 2 studies Anger SCL-90 Hostility – 5 studies	5 – 24 weeks	Whilst there were large variations between studies of anger reduction, significant pooled effect sizes were found for all three drug types. Two longer term studies with divalproic acid (12 and 24 weeks) had negligible effect sizes. Mood stabilizers gave the largest reduction in anger/aggression compared to the other drug types, with an effect size d = -1.75 (95% CI -2.77, -0.74).	Limitations – small numbers of studies in each class – 8 mood, 7 ADs and 6 APs. QC 1.1 = A 1.2 = A 1.3 = B 1.4 = B 1.5 = A 2.1 (+)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
74.			concurrent			Studies	Aggression		= -0.74 (-1.27,	
			treatment in	Fluvoxamine		assessing anger	Scale –		-0.21),	
Canada			psychotherapy	vs placebo- 1		Mood	Modified		antipsychotic d =	
				study		Stabilizers – MA	(OAS-M) – 3		-0.59 (-1.04,	
			None of the			showed that as	studies		-0.15).	
			studies	Amitriptyline		class mood			For depressed	
			included	haloperidol vs		stabilizers are	State-Trait		mood symptoms,	
			patients with	placebo – 1		highly effective	Anger		mood stabilisers	
			substance	study		for	Expression		again gave	
			abuse and			management of	Inventory		greatest	
			most excluded	Phenelzine		anger in BPD –	(STAXI) – 5		reduction d =	
			patients with	haloperidol vs		studies with	studies		-0.63 (-0.99,	
			suicidal	placebo – 1		largest effective			-0.27);	
			ideation.	study		sizes were short	Profile of		antidepressants	
						in length	Mood States		d = -0.37 (-0.69,	
			33% of	lamotrigine vs		Antipsychotics –	(POMS) – 1		-0.05),	
			included	placebo – 1		MA suggest that	study		antipsychotic d =	
			participants in	study		as a class, APs			-0.46 (-0.94,	
			the meta-			have medium	Note: Two		0.03).	
			analysis were			effect on anger	other			
			selected for			in BPD in short	measures			
			difficulty with			and medium	developed by			
			aggression,			terms. Further	researchers			
			prominent			studies on	were included			
			behavioural			efficacy of				
			dyscontrol or			olanzapine in				
			anger.			BPD are				
						needed.				
						Antidepressants				
						– MA suggests				
						that ADs as a				
1						class with				
						exception of				1

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						tricyclics are				
						moderately				
						effective for				
						short term. All				
						studies in this				
						group included				
						some patients				
						with depression				
						and other				
						concurrent TX.				
						Caution				
						required as only				
						short term				
						measured.				
						Studies of				
						depression				
						mood Mood				
						stabilizers – MA				
						suggests mood				
						stabilizers were				
						moderately				
						effective for				
						depression in				
						BPD. Effect size				
						was over- estimated and				
						only 4/8 studies				
						included				
						measures for				
						depression.				
						Antidepressants				
						– MA of all 7				
						studies included				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						measures of depression but only small effect of AD was shown. Antipsychotics - MA showed a medium effect on symptoms of depression. However Cl crossed zero. One study suggestion that haloperidol had effect on anger but could worsen depression.				
Stoffers, J., Völlm, B.A., Rücker, G., Timmer, A., Huband, N., Lieb, K. (2010) Pharmacolo gical intervention s for borderline personality disorder.	Cochrane Systemat ic Review Level 1	Study samples ranged from n = 16 to n = 314 in size. In total, the included studies provided data from	Adult patients with a formal diagnosis of BPD according to DSM criteria. The studies were conducted in either the USA (14 studies) or in Western European countries (12	Any drug or a defined combination of drugs administered on a long-term basis (i.e. not in case of crisis only) with the intention to treat BPD pathology.	Comparison treatments were classified in four categories: • placebo; • active comparator drug; • combination of drugs; • combined treatment, i.e. drug plus	Summary: Total BPD severity was not significantly influenced by any drug. There was little evidence for effectiveness of antidepressants . There was little effect of antipsychotics but olanzapine	Primary outcomes: Overall BPD severity Severity of single BPD criteria according to DSM (avoidance of abandonment, dysfunctional interpersonal patterns,	Variable	Altogether, 28 RCTs have been included, covering 22 different comparisons in ten comparison categories. In the presence of the multitude of different comparisons and outcome	Results are mostly based on single study effect estimates. Long-term use of these drugs has not been assessed. Authors note: Conclusions

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Cochrane		1742	studies) 5 in		concomitant	may increase	identity		variables, most	have to be
Database of		patients.	Germany		psychotherap	self harming,	disturbance,		results are based	drawn
Systematic			and/or		eutic	weight gain	impulsivity,		on single study	carefully in
Reviews.			Austria, two		treatment or	Detail:	suicidal		findings only.	the light of
16(6)			each in the UK		counselling.	First-generation	ideation,			several
			and Spain, and			antipsychotics	suicidal		The study sample	limitations of
Germany.			one each in			(flupenthixol	behaviour,		sizes were rather	the RCT
			Belgium,			decanoate,	self-mutilating		small and ranged,	evidence
			Ireland and			haloperidol,	behaviour,		with exception of	that
			the			thiothixene);	affective		two large trials	constrain
			Netherlands.			second-	instability,		(Schulz 2007; N=	applicability
			There were			generation	feelings of		314; Zanarini	to everyday
			two			antipsychotics	emptiness,		2007; N of patient	clinical
			international			(aripirazole,	anger,		data used here:	settings
			multicentre			olanzapine,	psychotic		301), between 16	(among
			trials. One			ziprasidone),	paranoid		(Hollander	others,
			took place in			mood stabilisers	symptoms,		2001) and 108	patients'
			13 study			(carbamazepine	dissociative		(Soloff 1993;	characteristic
			centres in the			, valproate	symptoms)		divided into three	s and
			USA, South			semisodium,			groups).	duration of
			America, and			lamotrigine,	Secondary			interventions
			Eastern			topiramate),	outcomes:		Therefore, the	and
			Europe.			antidepressants	Depression		power to detect	observation
						(amitriptyline,	Anxiety		significant effects	periods).
						fluoxetine,	General		was quite low.	QC
						fluvoxamine,	psychiatric			1.1 =A
						phenelzine	pathology:		In addition, the	1.2 =A
						sulfate,	comprehensiv		overall	1.3 =A
						mianserin), and	e measures		robustness of	1.4 =A
						dietary	Mental health		findings must be	1.5 =A
						supplementatio	status		considered low	2.1 = (++)
						n (omega-3	Attrition		for the majority	
						fatty acid) were	Adverse		of comparisons.	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						tested.	effects			
						First-generation				
						antipsychotics				
						were subject to				
						older trials,				
						whereas recent				
						studies focussed				
						on second-				
						generation				
						antipsychotics				
						and mood				
						stabilisers. Data				
						were sparse for				
						individual				
						comparisons,				
						indicating				
						marginal effects				
						for first-				
						generation				
						antipsychotics				
						and				
						antidepressants				
						. Adverse event				
						data were				
						scarce, except				
						for olanzapine.				
						There was a				
						possible				
						increase in self-				
						harming				
						behaviour,				
						significant				
						weight gain,				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						sedation and				
						changes in				
						haemogram				
						parameters				
						with olanzapine.				
						A significant				
						decrease in				
						body weight				
						was observed				
						with topiramate				
						treatment.				
						All drugs were				
						well tolerated in				
						terms of				
						attrition.				
						Direct drug				
						comparisons				
						comprised two				
						first-generation				
						antipsychotics				
						(loxapine versus				
						chlorpromazine)				
						, first-				
						generation				
						antipsychotic				
						against				
						antidepressant				
						(haloperidol				
						versus				
						amitriptyline;				
						haloperidol				
						versus				
						phenelzine				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						sulfate), and				
						second-				
						generation				
						antipsychotic				
						against				
						antidepressant				
						(olanzapine				
						versus				
						fluoxetine).				
						Data indicated				
						better				
						outcomes for				
						phenelzine				
						sulfate but no				
						significant				
						differences in				
						the other				
						comparisons,				
						except				
						olanzapine				
						which showed				
						more weight				
						gain and				
						sedation than				
						fluoxetine.				
						The only trial				
						testing single				
						versus				
						combined drug				
						treatment				
						(olanzapine				
						versus				
						olanzapine plus				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						fluoxetine; fluxetine versus fluoxetine plus olanzapine) yielded no significant differences in outcomes.				
Varghese, B.S., Rajeev, A., Norrish, M., A.I., Khusaiby, S.B.M., (2010) Topiramate for anger control: A systematic review. Indian Journal of Pharmacolo gy 42(3), 135-41. India	SR Level 1	n = 24 included topirmate. n = 5 were included in final analysis.	Study participants were required to be aggressive adults. Studies included participants below 18 yrs of age, provided that the mean age of participants clearly indicated that the majority of participants were adults. Age range 16- 61 yrs, with a mean age of 41 yrs.	Included studies were required to have at least one arm in which topiramate was used as intervention. BPD diagnosis = 3 studies Depression diagnosis = 1 study Chronic Backache diagnosis = 1 study Study 1 - The study dealt with women aged between 20 and 35 yrs who were more	Placebo	Summary: With a fairly good quality of studies in the analysis, the study came to a conclusion that there is sufficient evidence to suggest that topiramate is significantly effective in stabilizing trait anger but appears to reduce state anger, angerout anger-in and hostility. The reduction in the scores was highest in borderline	(a) Four STAXI scales- State Anger, Trait Anger, Anger Out, Anger Control - or any equivalent measure of component or global response. The State Anger scale assesses the intensity of anger as an emotional state at a particular time. The Trait Anger scale measures how often angry feelings are experienced over time. The	8 – 10 weeks.	Calculated weighted mean difference -3.16 (-3.64 to -2.68) in State Anger. Limited detail to allow for effect size calculation.	Primary search was Medline only, also did additional screening of Cochrane and PubMed The sample size was relatively small and the percentage of males included is less compared to that of females. The study duration was generally only 8-10 weeks, which may have

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Studies were	susceptible to		personality	Anger			reduced the
			conducted	BPD than men		disorder (BPD)	Expression			incidence of
			among	and STAXI was		patients as	and Anger			adverse
			patients who	used as the		compared to	Control scales			effects and
			suffered from	primary		those with low	assess			the dropout
			other types of	outcome		back ache.	relatively			rate.
			aggression,	measure.		Trait Anger	independent			
			including that	Study 2 – This		dropped by -	anger-related			QC
			in BPDs.	study		2.93	traits: (i)			1.1 =B
				conducted a		(-3.49 to -2.37),	expression of			1.2 =B
				directed study		especially in	anger toward			1.3 =B
				for BPD in		female BPD	other persons			1.4 =B
				males wherein		patients. Anger-	or objects in			1.5 =C
				the same		In reduced	the			2.1 (+)
				standards		more or less	environment			
				(above) as the		uniformly	(Anger-Out),			
				previous study		across the	(ii) holding in			
				in females		studies by -1.43	or suppressing			
				were applied.		(-1.84 to -1.03).	angry feelings			
				There were 22		Anger-Out	(Anger-In) and			
				subjects each		decreased by -	(iii) controlling			
				in the		2.8	angry feelings			
				topiramate		(-3.19 to -2.42).	by preventing			
				and placebo		This effect was	the expression			
				arms.		minimal among	of anger			
				Study 3 – This		the male BPD	toward other			
				was a 10-week		patients.	persons or			
				study, which		Anger Control	objects in the			
				enrolled 64		uniformly	environment			
				subjects, and		increased across	or controlling			
				grouped them		the four studies	suppressed			
				into		by 2.32 (2.00-	angry feelings			
				topiramate		2.64). There is	by calming			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				and placebo		sufficient	down or			
				arms in a 1:1		evidence to	cooling off			
				ratio.		suggest that	(Anger			
				Study 4 – This		topiramate is	Control).			
				study on an		significantly	Individuals			
				unrelated		effective in	rate			
				condition, i.e.		stabilizing the	themselves on			
				chronic low		"trait anger"	the scales that			
				back pain,		while reducing	assess both			
				topiramate		the "state	the intensity			
				was titrated		anger." "Anger-	of their anger			
				from 50		Out" and	at a particular			
				mg/day to 300		"hostility" were	time and the			
				mg/day in 48		significantly	frequency at			
				subjects. The		reduced.	which anger is			
				effect was		"Anger-In" was	experienced,			
				compared		the feature that	expressed and			
				with a placebo		was the least	controlled.			
				group.		affected,	(b) Symptoms:			
				Study 5 - In		although this	a change in			
				this study 56		was significant.	self-reported			
				females with		This suggests	feelings of			
				BPD were		that topiramate	anger and			
				randomized to		is effective in	impulsiveness,			
				receive		controlling	either an			
				topiramate		anger.	increase or			
				50-200		There was no	decrease in			
				mg/day or		suggestion of	the frequency			
				placebo in a		topiramate	and severity.			
				1:1 ratio		precipitating	(c) Behaviour:			
						psychomorbidit	a reduction in			
						у.	aggression,			
						The studies	either to self			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						varied in terms of inclusion criteria such as BPD, depression and even low back ache. There were separate studies for men and women.	or others; a reduction in impulsiveness.			

Anticonvulsants

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age		-			follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Leiberich,	RCT	LG Group	Diagnosis of	In the initial	Placebo	Summary: Lamotrigine -	State-Trait	8 weeks for	Standardised change	The study
P., Nickel,	Level 2	n = 18	BPD had to	8 week	initially	significant reduction in	Anger	initial	scores between	was limited
M.K., Tritt,			be	study:	provided for	anger and aggression	Expression	blinded	baseline and follow-	in sample
K., & Gil,	Double	PG Group	confirmed	Lamotrigine	8 weeks.	measured by the STAXI	Inventory	treatment	up for lamotrigine	size with a
F.P. (2008).	blind RCT,	n=9	by means of	was titrated	After 8	compared to placebo.	(STAXI)	period.	group:	particularly
Lamotrigine	which was		an interview	from 50 mg	weeks, blind	No serious side effects but		18 month	STAXI Anger-In d =	high drop
treatment	broken		with SCID II.	in the first 2	was broken	some adverse events		long-term	-1.41 (95% CI -2.15,	out in the
of	after the			weeks, to	and	during the trial: self-		follow-up	-0.67)	former
aggression	conclusion		Sample was	100 mg in	participants	mutilation (LG), attempted		observations	STAXI Anger-Out d =	control
in female	of final		All women.	the third	randomised	suicide (placebo) and		were	-2.95 (95% CI -4.16,	group and
borderline	testing in			week, then	to placebo	weight loss (both)		reported,	-1.74)	also limited
patients,	the initial		LG Group -	to 150 mg in	took neither			after	STAXI State Anger d =	due to the
part ii: An	trial (8		mean age 29	the fourth	lamotrigine	Detail:		blinding was	-4.08 (95% CI -5.68,	discontinuati
18-month	weeks)		PG Group -	and fifth	or placebo.	The LG experienced		discontinued	-2.42)	on of
follow-up.			mean age 28	weeks, and		significantly greater			STAXI Trait Anger d =	blinding after
Journal of	2:1			finally to a		changes compared to the			-3.98 (95% CI -5.55,	8 weeks of
Psychophar	randomisa		Participants	dose of 200		placebo/Ex-PG on all STAXI			-2.42)	treatment.
macology,	tion		were	mg/day in		scales.			Weight d = -0.12	
22(7), 805-			outpatients	the sixth,		No serious side effects			(95% CI -0.65, 0.41)	QC
808			referred	seventh and		were observed. In isolated			Standardised change	1.1=A
			through	eighth		cases, relatively mild rash,			scores between	1.2=B
Germany			"family	weeks. 200		dizziness, headache and			baseline and follow-	1.3=B
			doctors".	mg/day		nausea were reported.			up for placebo group:	1.4=A
				lamotrigine		Two subjects from the Ex-			STAXI Anger-In d = 1,	1.5=A
				continued to		PG and one from the LG			(95% CI -0.38, 2.39)	1.6=C
				be taken up		engaged in self-mutilation			STAXI Anger-Out d =	1.7=A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				to 18		and one from the Ex-PG			0.10 (95% CI -1.04,	1.8=22.2%
				months.		attempted suicide during			1.23)	and 66.7%
						the study.			STAXI State Anger d =	1.9= A
						In addition, weight loss			-0.03 (95% CI -1.16,	1.10=F
						was observed after			1.10)	2.1 = (+)
						eighteen months			STAXI Trait Anger d =	
						treatment.			0.22 (95% CI -0.93,	
						In the LG, weight loss was			1.36)	
						no more significant than in			Weight d = 0.09 (95%	
						the PG.			CI -1.04, 1.23)	
									Standardised mean	
									difference between	
									treatment and	
									control at follow-up:	
									STAXI Anger-In d =	
									-3.29 (95% CI – 4.95,	
									-1.62)	
									STAXI Anger-Out d =	
									-3.45 (95% CI -5.16,	
									-1.75)	
									STAXI State Anger d =	
									-3.94(95% CI -5.76,	
									-2.12)	
									STAXI Trait Anger d =	
									-5.87 (95% CI – 8.20,	
									-3.53)	
									Weight d = -2.06(95%	
									CI -2.71, -1.41)	

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Loew, T.H.,	RCT	N=56	TG	100mg	Initially	Summary: Topiramate -	SCL-90-R	10 weeks for	Accurate effect sizes	QC
& Nickel,			(Topiramate	topiramate	placebo	reduction in aggressive	SF-36	initial	cannot be calculated	1.1=A
M.K. (2008).	Level II	Topiramat	Group) vs	daily.	controlled	behaviour, anxiety and	Inventory of	blinded	(except for changes	1.2=B
Topiramate		е	PG (placebo	After blind	but after	phobias, obsessiveness,	Interpersona	treatment	in weight) because	1.3=B
treatment		n = 28	group)	was broken,	blind was	depression, paranoia,	l Problems	period.	no means were	1.4=A
of women			Age [in yrs]:	participants	broken,	interpersonal problems,		18 month	provided. Estimate of	1.5=A
with		Placebo	TG, 24.9 ±	in the	former	pain.		long-term	the standardised	1.6=A
borderline		n = 28	5.3; PG, 25.6	intervention	placebo	Improved health and		follow-up	mean difference	1.7=A
personality			± 5.7	group	group	activity related measures,		observations	between	1.8=21.4%
disorder,				continued to	received no	and affective instability.		were	intervention and	and 25%
part ii: An			Ever been	take	intervention.	No effect on psychoticism.		reported,	control group for	1.9= A
open 18-			treated with	topiramate.		Mild-moderate side-		after	psychological	1.10=F
month			psychothera			effects usually with		blinding was	variables using p	2.1 = (+)
follow-up.			py: TG, n =			initiating or increasing		discontinued	value: d = -0.71 (95%	
Journal of			15 [53.6%];			dose.			CI -0.76, -0.17)	
Clinical			PG, n = 13			No significant change			Standardised change	
Psychophar			[46.4%]			occurred on the scale that			in weight between	
macology,			Ever been			depicts relatively			baseline and follow-	
28(3), 355-			treated with			borderline symptomology.			up for topiramate	
357.			psychophar			It is possible that			group: d= -0.59 (95%	
			macological			topiramate exerts a			CI -0.99, -0.19); and	
Austria/Ger			therapy: TG,			merely modulating effect			for placebo group d =	
many			n = 26			on aggressive expansive			0.25, (95% CI -0.13,	
			[92.8%]; PG,			traits.			0.62). Standardised	
			n = 27						mean difference	
			[96.4%]			Detail: Topiramate			between	
			Ever been			significantly reduced			intervention and	
			hospitalized			health-related			control group for	

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			for			impediments to physical			weight: d = -2.06	
			psychiatric			activities, increased the			(95% CI -2.71, -1.41)	
			disorders:			ability to engage in				
			TG, n = 6			specific activities, reduced				
			[21.4%]; PG,			physical pain, improved				
			n = 7			personal assessment of				
			[25.0%])			one's own health,				
			Depressive			increased vitality, reduced				
			disorders:			restrictions in social and				
			TG, n = 20			vocational activities, and				
			[71.4%]; PG,			significantly improved the				
			n = 21			emotional state of health.				
			[75.0%]			The increased affective				
			Anxiety			stability and reduction of				
			disorders:			pain also conform to the				
			TG, n = 15			findings of previous				
			[53.6%]; PG,			studies.				
			n = 14			Significant changes were				
			[50.0%]			seen on all scales of the				
			Obsessive-			SCL-90-R (P < 0.01), except				
			compulsive			psychoticism, and on the				
			disorders:			Global Severity Index (P <				
			TG, n = 3			0.01).				
			[10.7%]; PG,			These findings conform to				
			n = 4			previous reports of clear				
			[14.3%]			improvements not only in				
			Somatoform			aggressive behaviour but				
			disorders:			also in anxiety and				

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			TG, n = 17			phobias.				
			[60.7%]; PG,			They also corroborate and				
			n = 18			expand findings from the				
			[64.3%])			initial study on				
			BPD			obsessiveness, depression,				
			diagnosed			and paranoid ideation.				
			by SCID.			On the other hand,				
						topiramate does not seem				
						to be effective in treating				
						psychoticism.				
						In comparison to the				
						placebo, topiramate				
						resulted in significant				
						improvement on 5 scales				
						of the German Language				
						Version of the Inventory of				
						Interpersonal Problems.				
						Some side effects: but are				
						mild to moderate, often				
						occurring only when				
						topiramate is initiated or				
						increased in dose.				

Antipsychotics

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Shafti, S.S., &	RCT	N=28	All females	Olanzapine	Haloperidol	Summary: Both	Brief	Measured at	The effect	QC
Shahveisi, B.					(in identical	olanzapine and	Psychiatric	baseline and	size was	1.1=B
(2010). Olanzapine	Level 2		Age:	The drugs were	looking	haloperidol	Rating Scale	after 8	calculated	1.2=B
versus	8 week,		Olzanzapine	started at 2.5	capsules).	improved but no	(BPRS)	weeks.	for changes	1.3=B
haloperidol in	parallel		Group: 30.09	mg daily and		difference between			on the BPRS,	1.4=A
the	group,		(±8.71)	then		them – no placebo	Clinical Global		BDHI, and	1.5=A
management	compara		Haloperidol	individually		control group	Impression-		CGI-S at the	1.6=B
of borderline	tive		Group: 28.88	increased			Severity		end of	1.7=A
personality	double-		(±7.66).	weekly by 2.5-		Detail: All of the	(CGI-S)		treatment,	1.8= 0%
disorder: A	blind RCT			mg increments,		patients from			which	both
randomized double-blind	(olanzapi		The patients	as needed or		within both groups	Buss-Durkee		indicated a	groups
trial. Journal	ne vs.		were excluded	tolerated, to a		completed the	Hostility		large (d ≥	1.9=B
of Clinical	haloperi		if comorbid	maximum of 10		study.	Inventory		0.8), readily	1.10=F
Psychopharm	dol)		MH was	mg by week 4.		Intragroup analysis	(BDHI) (has 8		observable	2.1 = (+)
acology,			present,			at the eighth week	subscales:		improvemen	
30(1), 44-7			including	The dose		interval revealed	Assault,		t with both	
			major	established by		significant positive	Indirect		olanzapine	
Iran			depressive	week 4 was held		response by both	Hostility,		(Cohen d =	
			disorder,	constant		olanzapine and	Irritability,		1.40, effect-	
			bipolar	throughout the		haloperidol in	Negativity,		size r =	
			disorder,	remainder of		comparison with	Resentment,		0.574;	
			psychosis or	the study.		the baseline (P <	Suspicion,		Cohen d =	
			substance			0.05); however,	Verbal		1.56, effect-	
			dependency in			between-group	Hostility, and		size r	
			Axis I, mental			analysis showed no	Guilt.)		=0.615; and	
			retardation in			significant			Cohen d =	
			Axis II, or			difference, among			0.759,	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			identifiable			the patients.			effect-size r	
			neurological			The analysis of			= 0.354,	
			morbidity in			specific Brief			respectively)	
			Axis III.			Psychiatric Rating			and	
			No other			Scale subscales in			haloperidol	
			concurrent			both groups			(Cohen d =	
			psychotropic			revealed			2.67, effect-	
			medication or			considerable and			size r =	
			psychosocial			comparable			0.801;	
			interventions			improvements in			Cohen d =	
			were allowed			anxiety, tension,			1.06, effect-	
			during the			depressive mood,			size r =	
			trial.			and hostility.			0.471; and	
						There was a			Cohen d =	
			Inpatients			significant positive			0.749,	
						response with both			effect-size r	
						olanzapine and			= 0.350).	
						haloperidol at the				
						end of the trial in			Standardise	
						comparison with			d mean	
						the baseline on the			difference	
						BPRD, BDHI and			between	
						CGI-S. Although			haloperidol	
						olanzapine caused			and	
						more decrement,			olanzapine	
						the between group			at follow-up:	
						analysis showed no			BPRS d =	
						significant			0.22 (95% CI	
						difference. Analysis			-0.53, 0.96)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						of specific BPRS			BDHI d =	
						subscales in both			-0.02 (95%	
						groups revealed			CI -0.76,	
						similar and			0.72)	
						significantly lower			CGI-S d =	
						scores in anxiety,			-0.32 (95%	
						tension, depressive			CI -1.07,	
						mood, and hostility.			0.42)	
						In this respect,				
						olanzapine showed				
						appreciably better				
						results on				
						suspiciousness and				
						excitement. A				
						similar pattern was				
						seen by haloperidol				
						on				
						uncooperativeness				
						and unusual				
						thought content.				
						Side effects were				
						mild and well				
						tolerated, no				
						subject failed to				
						complete the study.				

Anxiolytics

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Ziegenhorn, A.	RCT	N=62	All patients	Clonidine	Placebo	Summary:	Mini	6 weeks	Standardised	Small sample
A., Roepke, S.,	Level II	n = 18	were white, 1	A slow dose-	Capsule	Significant	International		change scores	size but still
Schommer, N.			patient was a	escalation		improvement	Neuropsychiat		between	showed
C., Merkl, A.,	Within-		male, and 17	scheme was		in	ric Interview		baseline and	improvement
Danker-Hopfe,	subject,		patients were	used to reach		hyperarousal	for DSM-IV		follow-up for	
H., Perschel, F.	double-blind,		female.	the target		for patients	and the		clonidine	CQ
H., Heuser, I.,	placebo-			dose of 1		with PTSD for	Structured		group:	1.1 = A
Anghelescu,	controlled		The mean (SD)	capsule (0.150		clonidine	Clinical		CAPS-D d =	1.2 = B
I.G., Lammers,	cross over		age of the BPD	mg of		compared to	Interview for		-2.36 (95% CI	1.3 = E
C. H. (2009).	design		patients in this	clonidine) in		control but	DSM-IV		-3.26, -1.46)	1.4 = D
Clonidine	(block		study was 32	the morning		not measures	personality		BSL d = -0.46	1.5 = E
improves	randomisation		(8) yrs (range,	and 2 capsules		of general	disorders.		(95% CI -0.94,	1.6 = C
hyperarousal	to receive		19-44 yrs).	(0.300 mg of		psychopatholo			0.03)	1.7 = A
in borderline	either			clonidine) at		gy or BPD	Hyperarousal		SCL-90-R d =	1.8 = 17% of
personality	clonidine or		88% had	bedtime at		symptoms.	was measured		-0.63 (95% CI	the total
disorder with	placebo first)		psychiatric	the end of		Mild adverse	by the		-1.13, -0.12)	sample
or without			comorbidities;	week 1.		effects	clinician-		BDI d = -0.80	dropped out
comorbid			the most	Participants		reported	administered		(95% CI -1.33,	during the
posttraumatic			prevalent axis	were assessed			PTSD scale		-0.27)	placebo and
stress			I disorder was	during week 2.		Detail:	(CAPS-D).		Standardised	11% of the
disorder: A			PTSD (12	During week		Treatment			change scores	total sample
randomized,			patients)	3, medication/		with clonidine	BPD typical		between	dropped out
double-blind,			followed by	placebo was		resulted in a	symptoms		baseline and	after
placebo			eating	tapered to		significant	were assessed		follow-up for	clonidine; 29%
controlled			disorders (9	zero. Week 4		18.3%	using the		placebo	of the total
trial. Journal			patients), and	was used for a		improvement	borderline		group:	sample after
of clinical			substance	drug washout.		in	symptom list		CAPS-D d =	randomisation
psychopharma			abuse (7	From week 5,		hyperarousal.	(BSL).		-1.26 (95% CI	dropped out.
cology, 29(2),			patients).	patients were		The	` ′		-1.8, -0.64)	1.9 = C
170-173.			Ten patients	switched to		improvement	The Symptom		BSL d = -0.26	1.10 = F
			were on	the alternate		in the PTSD	Checklist 90		(95% CI -0.73,	2.1 = (-)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Germany			antidepressan t medication (91% second generation antidepressan ts), 3 were on antipsychotics , and 1 patient was on valproate. Dropouts were not related to the study or adverse effects of the medication. Inpatients	treatment and evaluated in week 6 as before.		positive subsample was 21.2% (z = -2.67, P = 0.008) compared with a 13.1% improvement in the PTSD- negative subsample (z = -1.46, p = 0.144). The improvement of general psychopatholo gy scores (SCL- 90-R) in the whole sample did not reach conventional levels of significance. Clonidine had no effect on borderline- typical symptoms in the whole sample (BSL). Adverse effects, when	revised (SCL- 90-R) with its 9 subscales. Beck Depression Inventory (BDI). 24-hour urine was collected for catecholamine measurement s.		0.21) SCL-90-R d = -0.34 (95% CI -0.82, 0.13) BDI d = -0.49 (95% CI -0.98, 0.00) Standardised mean difference between clonidine and placebo: CAPS-D d = 1.01 (95% CI 0.44, 1.58) BSL d = 0.17 (95% CI -0.30, 0.63) SCL-90-R d = 0.24 (95% CI -0.23, 0.71) BDI d = 0.22 (95% CI -0.25, 0.69)	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						present, were				
						mild.				
						Hyperarousal				
						as measured				
						by the				
						Clinician				
						Administered				
1						PTSD scale				
						improved				
						significantly				
						compared				
						with placebo				
						(P = 0.003)				
						irrespective of				
						PTSD				
						comorbidity.				
						Improvements				
						in general and				
						BPD-typical				
						psychopatholo				
						gy were				
						mainly seen in				
						the PTSD-				
						positive				
						subgroup,				
						whereas the				
						subjective				
						sleep latency				
						(P = 0.005)				
						and the				
						restorative				
						qualities of				
						the sleep (P =				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						improved in the whole sample. Authors conclude that clonidine might be a useful adjunct to pharmacother apy in patients with BPD who have marked hyperarousal and/or sleep problems and, in particular, in patients				
						with BPD who have a PTSD comorbidity.				

Clinical Question 10. Among people with BPD, are multimodal therapies (pharmacological, psychological, team approaches, day programs, inpatient programs, family/systems therapies, therapeutic communities) more effective than single modal therapies in reducing suicide/self-harm, psychopathology and increasing functioning?

NICE guideline summary

NICE refers to combination therapies on page 144.

There are few studies comparing the effects of adding a drug to a psychological therapy on symptoms of borderline personality disorder. Consequently the evidence for an effect is weak. There was no evidence of an effect on symptoms of adding fluoxetine or olanzapine to DBT. However, adding IPT to fluoxetine showed some efficacy (compared with fluoxetine alone) in reducing depression symptoms (clinician-rated measure only), and psychological and social functioning aspects of the quality-of-life measure used (self-rated measures). However, the number of participants in this latter trial is very low (n _ 25) and therefore further research is needed to replicate this finding. In the trial comparing IPT with CT, the effect of treatment on outcomes was inconclusive, other than for social functioning where CT improved scores more than IPT. However, this trial is also very small. The evidence does not support any recommendations specifically about the combined use of psychotropic medication and a psychological therapy in the treatment of borderline personality disorder.

Updated search

Summary

There were four new multimodal studies that met the inclusion criteria. Generally studies showed a benefit for combined medication and psychological therapies over medication alone.

Evidence table

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Bellino, S.,	RCT	N= 55	55	28 patients	27 patients	Summary: Combined	Depression	Treatment		No
Rinaldi, C.,	Level II	enrolled	participants	received	received	therapy superior to	(Hamilton	lasted 32		Intention
Bogetto, F.			(18 males and	fluoxetine 20	fluoxetine 20	medication only on a range	Depression	weeks.		to treat
(2010)		N=44	37 females)	mg to 40 mg	mg to 40 mg	of measures including	Rating Scale)			analysis –
Adaptation of		analysed	with DSM-IV-	daily (see	daily plus	anxiety, psychological				only
interpersonal			TR diagnosis	control group	clinical	functioning and social	Anxiety			analysed
psychotherapy			of BPD were	for schedule)	management	functioning.	(Hamilton			data for
to borderline			recruited from	plus IPT-BPD.	consisting of a		Anxiety Rating			completers
personality			patients	IPT-BPD	fortnightly	Detail: Of 55 subjects, 11	Scale)			(i.e. 44 of
disorder: A			attending the	consisted of	clinical review	(20%) dropped out (6 in				55
comparison of			Service for	weekly,	of 15-20	medication-only, 5 in	Quality of life			enrolled)
combined			Personality	manualised	minutes	combined therapy). Only	(SAT-P			and
therapy and			Disorder of	sessions lasting	duration.	treatment completers	satisfaction			potential
single			the Unit of	1 hour.	Initially,	(n=44) were included in	profile)			attrition
pharmacothera			Psychiatry,	Patients in the	fluoxetine was	the analysis.				bias due to
py. Canadian			Department of	combined	prescribed at a	Using a univariate General	Global			lack of
Journal of			Neuroscience,	therapy group	fixed dosage of	Linear Model to calculate	functioning			compliance
Psychiatry.			University of	were treated by	20 mg daily	the effects of 1) duration	(CGI Clinical			was not
55(2), 74-81.			Turin.	a	with the	of treatment and 2) the	Global			addressed.
				psychotherapist	opportunity to	type of treatment on each	Impression			Combined
Italy			Mean age of	who was not	increase the	assessment scale score,	Scale)			therapy
			25.8 yrs in	the psychiatrist	dosage to 40	only duration of treatment				was not
			medication-	prescribing the	mg daily	had a significant effect on	Social and			compared
			only group	medication and	beginning in	global functioning,	occupational			with IPT
			and 26.2 yrs in	who had 5 yrs	week 2,	depressive symptoms and	functioning			alone.
			combined	of experience	depending on	social and occupational	(SOFAS)			Small
			therapy	practising IPT.	clinical	functioning (p=<0.001),				sample size
			group; 62%	The	judgment.	while both treatments	BPD			limits
			previous	psychotherapy		alleviated symptoms of	symptoms			ability to
			hospitalization	and the		depression and improved	severity and			draw

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			s; 27% employed; 31% married. Excluded were those with a lifetime diagnosis of delirium, dementia, amnestic or other cognitive disorders, schizophrenia or other psychotic disorders, and bipolar disorder. Concomitant Axis I or II disorders were also excluded. Female patients of childbearing	pharmacothera py started at the same time.		global functioning. Combined therapy was superior to medication-only in alleviating anxiety symptoms (p=<0.001). Combined therapy was significantly superior to medication-only in improving psychological functioning (p=0.003). The interaction between combined therapy and treatment duration was superior to medication-only in improving social functioning as measured by the SAT-P for subjective quality of life (p=0.03). Only duration of therapy had an effect on the BPD-SI total score (p=<0.001), and duration also had an effect on the following factors from the BPD-SI: outbursts of anger (p=<00.1) and emptiness (p=<.001). Combined therapy had significant effects on	frequency (BPD-SI)			strong conclusions but results suggest that combined therapy was superior to monothera py in relieving anxiety, improving functioning and alleviating the severity of some symptoms of BPD during the 32 weeks of the trial. QC 1.1=A 1.2=C 1.3=B
			age were excluded if they were not			interpersonal relationships (p=<.009), impulsivity				1.4=D 1.5=B

Country [Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			using an adequate method of birth control, as were those who had recently received psychotherapy or pharmacother apy, and current substance abusers.			(p=<0.01), and affective instability (p=0.02) which increased over time (p=<0.001 for all domains). Neither type of therapy nor duration of therapy had effects on: abandonment, parasuicidal behaviour, paranoid ideation, and identity.				1.6=B 1.7=B 1.8= 20% 1.9=D 1.10=F 2.1 = (-)
, ,	RCT Level II	N=39 enrolled N=32 analysed	participants with DSM-IV- TR diagnosis of BPD who met clinical and DSM-IV criteria for a major depressive episode (mild to moderate). Mean age of 26.4 yrs (SD	20 patients received fluoxetine (see control group for schedule) plus IPT. IPT consisted of weekly, manualised sessions lasting 1 hour. Patients in the combined therapy group were treated by	19 patients received fluoxetine 20 mg to 40 mg daily plus clinical management. Initially, fluoxetine was prescribed at a fixed dosage of 20 mg daily with the opportunity to increase the	Summary: Combined therapy had significant benefits over medication only on a range of functioning measures. Detail: Of 39 subjects, 7 dropped out (4 in medication-only, 3 in combined therapy). Only subjects that completed the study were included in the analysis (n=32). Changes in depression	Depression (Hamilton Depression Rating Scale - HDRS) Anxiety (Hamilton Anxiety Rating Scale – HARS) Quality of life (SAT-P satisfaction profile)	Treatment lasted 24 weeks. Assessme nt at baseline, Week 12, and Week 24.		Participants very poorly described – limited demograph ic details reported. No description of randomisat ion procedure. No Intention

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
py. Canadian Journal of Psychiatry, 51(7), 453-460. Italy			female ratio 3:5. Subjects were selected from patients attending the Service for Personality Disorder of the Unit of Psychiatry, Department of Neuroscience, University of Turin. Excluded were those with a lifetime diagnosis of delirium, dementia, amnestic or other cognitive disorders, schizophrenia or other psychotic disorders, and	psychotherapist who was not the psychiatrist prescribing the medication and who had 5 yrs of experience practicing IPT. The psychotherapy and the pharmacothera py started at the same time.	mg daily beginning in Week 2, depending on clinical judgment.	HARS score did not differ between treatments with 75% (n =12) of combined-treatment patients and 62.5% (n =10) of medication-only patients achieving remission (x2 = 0.562, p = 0.446). (Remission was defined by a decreased HDRS score (≥ 40%), with a final score of ≤8, and a score of 1 (very much improved) or 2, (much improved) or 12, (much improved) on the Improvement item of the CGI). Using a univariate General Linear Model to calculate the effects of 1) duration of treatment and 2) the type of treatment on each assessment scale score, treatment type had a significant effect on HDRS scores - subjects receiving combined therapy had lower mean HDRS scores (T0 mean 18.6, T1 mean 13.6, T2 mean 9.1) than medication only subjects	Self-assessed interpersonal functioning (64-item Inventory of Interpersonal Problems) Global functioning (Clinical Global impression Scale - CGI)			analysis – only analysed data for completers (i.e. 32 of 39 enrolled) and potential attrition bias due to lack of compliance was not addressed. Small sample size does not allow strong conclusions to be drawn from this study but results suggest that combined therapy for BPD

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			patients whose major depressive episode was an expression of bipolar disorder.			(To mean 19.6, T1 mean 15.9, T2 mean 12; p = 0.005). Duration of treatment also had a significant effect on HDRS scores (p = 0.0005), but the interaction between the two was not significant. Combined therapy (p = 0.020) and the interaction of duration and treatment (p = 0.005) both had significant effects on social functioning and the difference between treatments increased over time. The interaction between combined therapy and treatment duration was superior to medication-only in improving psychological functioning (relates to self-esteem, problem solving, autonomy) as measured by the AST-P (combined T1 mean 47.0, T2 mean 69.0;				patients with comorbid depression may be superior to fluoxetine alone in improving symptoms of depression and social and psychologic al functioning . QC 1.1=A 1.2=A 1.3=D 1.4=D 1.5=A 1.6=A 1.7=B 1.8= 15% 1.9=D
						medication only T1 50.0, T2 57.2; p = 0.017).				1.10=F 2.1 = (-)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Simpson, E.B.,	RCT	N = 25	25 female	12 subjects	13 subjects	Summary: Findings suggest	Depression	13 weeks		A well-
Yen, S.,	Level II		subjects with	were randomly	were randomly	that the addition of 20-	(Beck			conducted
Costello, E.,			DSM-IV	assigned to	assigned to DBT	40mg of fluoxetine to an	Depression			study
Rosen, K.,	Randomi		diagnosis of	fluoxetine	plus placebo.	evidence-based	Scale - BDI)			however
Begin, A.,	zed,		BPD and	which was		psychological therapy for				small
Pistorello, J., &	double-		meeting at	prescribed at a		BPD such as DBT resulted	Anxiety			sample size
Pearlstein, T.	blind,		least one BPD	dosage of 20 mg		in no additional benefit	(State-Trait			and quite
(2004)	placebo-		criterion for	daily at week 1		over 12 weeks for this	Anxiety			short
Combined	controlle		affective	and increased		sample of females with	Inventory,			follow-up
dialectical	d 12-		instability and	to 40 mg daily if		BPD.	STAI)			period
behaviour	week		one for	required						must be
therapy and	trial.		impulsivity (as	beginning in		Detail: Of 25 subjects, 5	Aggression			considered
fluoxetine in	Block		fluoxetine was	Week 3.		dropped out (3 in	(Overt			when
the treatment	allocatio		not expected			fluoxetine group, 2 in	Aggression			interpretin
of borderline	n based		to improve	All subjects		placebo).	Scale – OAS-			g results.
personality	on		symptoms of	received 12 X 1		Repeated measures	M)			
disorder. The	presence		identity	hour sessions of		ANOVA with significance				QC
Journal of	of PTSD		disturbance)	individual DBT		level set at 0.01 showed no	Dissociation			1.1=A
clinical	or major		were recruited	facilitated by		significant group	(Dissociative			1.2=A
psychiatry,	depressiv		from	trained		differences in pre- and	Experiences			1.3=A
65(3), 379-385.	е		admissions to	therapists and		post-treatment scores on	Scale – DES)			1.4=A
	disorder		a 5-day, DBT-	participated in a		BDI, STAI, STAXI, DES, OAS-				1.5=A
USA	to ensure		based partial	weekly 2-hour		M and GAF, with those in	Anger (State-			1.6=A
	presence		hospital	skills building		the placebo group showing	Trait Anger			1.7=A
	of		program for	group for 13		a greater, but non-	Expression			1.8= 30%
	disorders		women.	weeks.		significant decrease in	Inventor-			1.9=B
	was					symptoms across these	STAXI)			1.10=F
	compara		Mean age of	All subjects		measures.				2.1 = (++)
	ble		35.3 yrs (SD	underwent a		Paired sample t tests for	Global			
	across		10.13), 72%	week-long		within groups showed no	functioning			
	treatmen		Caucasian,	washout period		significant differences	(Global			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	t groups.		20% African American, 50% single, 20% married, 56% did not have a college degree. All subjects had at least one other concurrent Axis I disorder either major depression and/or PTSD. Excluded were those with schizophrenia or bipolar disorders, primary diagnosis of substance dependence, seizure disorder, unstable medical conditions, and those	prior to commencing drug therapy or placebo.		between pre-and post-treatment scores among the fluoxetine group on these measures, however significant differences were found among the placebo group for BDI (t= 5.4, df= 10, p=<0.001); and the GAF (t= -5.8, df= 9, p=<0.001), and near-significant improvements were found for improvement in anxiety (t= 3.4, df= 10, p=<0.008); anger expression (t= 3.60, df= 10, p=<0.005); and dissociation (t= 3.42, df= 10, p=<0.007) also among the placebo group. Intention-to-treat analysis of dropouts did not change the findings.	Assessment of Functioning Scale - GAF)			

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			who had been							
			treated with							
			monoamine							
			oxidase							
			inhibitors							
			(MAOIs) or							
			fluoxetine.							
			Pregnant and							
			lactating							
			female							
			patients were							
			excluded as							
			were those							
			not using an							
			adequate							
			method of							
			birth control.							
Soler, J.,	RCT	N=60	60	12 weeks of	12 weeks of	Summary: Olanzapine was	Depression	12 weeks		No
Pascual, J.C.,	Level II		participants	DBT plus	DBT therapy (as	significantly superior to	(Hamilton			description
Campins, J.,			with DSM-IV	olanzapine 5 –	per	placebo in improving	Depression			of
Barrachina, J.,			diagnosis of	20mg daily. The	intervention)	mood and anxiety	Rating Scale -			randomizat
Puigdemont, D.,			BPD assessed	dialectical	plus placebo.	symptoms and in reducing	HDRS)			ion
Alvarez, E.,&			by the	behaviour		impulsivity/ aggressive				procedure.
Perez, V. (2005)			Structured	therapy format		behaviour.	Anxiety			
Double-blind,			Clinical	was adapted		Detail: All analyses were	(Hamilton			QC
placebo-			Interview for	from the		conducted on an intent-to-	Anxiety Rating			1.1=A
controlled			DSM-IV Axis II	standard		treat basis. The endpoint	Scale - HARS)			1.2=B
study of			Disorders and	version; two of		was based on a last-				1.3=B
dialectical			the Revised	the four types		observation-carried-	Global			1.4=A
behaviour			Diagnostic	of intervention		forward strategy.	functioning			1.5=B
therapy plus			Interview for	were applied:		N=42 completed the study	(Clinical			1.6=B

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
olanzapine for			Borderlines	skills training		(30% drop-out, 8 of the 30	Global			1.7=B
borderline			were recruited	and phone calls.		patients who received	impression			1.8= 30%
personality			from			olanzapine vs. 10 of the 30	Scale - CGI)			1.9=A
disorder.			psychiatric	Participants		who received placebo)				1.10=F
American			services and	were evaluated		The olanzapine-treated	Self-reported			2.1 = (+)
Journal of			emergency	every 2 weeks		group showed a greater	behaviours			
Psychiatry,			psychiatric	by an		decrease in depressive	(impulsivity/a			
162(6), 1221-			units.	experienced		symptoms according to	ggression,			
1224.			All had	psychiatrist and		HDRS: baseline mean 22.5	self-			
			moderate-to-	participated in		vs. after-treatment mean	injury/suicide			
Spain			high clinical	weekly 150-		13.71, compared with	attempts,			
			severity	minute group		20.77 vs. 15.8 for controls	emergency			
			without	psychotherapy		(F = 4.24, df = 3.44, 192.64,	department			
			unstable	sessions led by		p= 0.004).	visits)			
			comorbid axis	two trained		A significant decrease in				
			I disorders.	psychotherapist		clinical anxiety in the				
			Concomitant	S.		olanzapine-treated group				
			treatment			was observed: 26.83 vs.				
			with other			18.43 compared with				
			medications			24.36 vs. 19.93 (F = 3.57,				
			(e.g.			df = 3.39, 186.83, p<0.02).				
			benzodiazepin			Both groups showed a				
			es,			significant improvement in				
			antidepressan			most psychopathology				
			ts, and mood			scales however the				
			stabilizers) at			olanzapine plus DBT group				
			stable doses			experienced a significantly				
			was allowed,			greater decrease in the				
			as was use of			frequency of impulsivity				
			toxic			/aggressive behaviour than				
i			substances			the placebo plus DBT				

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis							
			Other							
			without			group (F = 2.82, df = 3.68,				
			dependence			184.23, p= 0.03).				
			criteria.			There was a non-				
						significant decrease in self-				
			87% female;			injuring behaviour/ suicide				
			mean age of			attempts in olanzapine-				
			27.5 yrs in			treated group (F = 2.42, df				
			treatment			= 2.49, 124.95, p= 0.08).				
			group and			The mean dose of				
			26.3 yrs in			olanzapine was 8.83				
			control group.			mg/day (SD= 3.8, range=5-				
						20). No differences were				
			Excluded were			detected between groups				
			those under			with respect to secondary				
			18 and over			effects spontaneously				
			45 yrs,			reported by the subjects or				
			unstable Axis I			in movement disorders.				
			disorder,			Olanzapine-treated				
			Clinical Global			patients experienced more				
			Impression			weight gain than placebo-				
			(CGI) severity			treated patients: 2.74 kg				
			of illness score			(SD=3.2, range=-9 to 7) vs.				
			<4, those			–0.05 kg (SD= 2.39, range =				
			receiving			-8 to 3) (F = 3.24, df= 1.84,				
			psychotherapy			103.55, p<0.05).				
			, female			Participants treated with				
			subjects not			olanzapine experienced a				
			using			significantly greater				
			medically			increase in cholesterol				
			accepted			levels 0.28 mg/dl vs0.1				
			contraception.			mg/dl, p<0.04).				

Clinical Question 11. Among people with BPD and comorbidities (medical [HIV/AIDS, diabetes, chronic pain, obesity, chronic fatigue], other personality disorders, other mental health, alcohol and drug disorders, eating disorders, intellectual disability), what treatments are effective in reducing suicide/self-harm, psychopathology and increasing functioning?

Please note that Clinical Questions 11 and 13 were combined after searching.

A summary for both questions is provided under Clinical Question 13.

Clinical Questions 11 382

Clinical Question 12. How should complex and severe BPD be managed, including management strategies (over a period of time) and multiple comorbidities?

NICE Guideline summary

NICE did not address this question separately in searches nor specifically in recommendations. They refer to NICE Clinical Guideline 16 on Self Harm for management of self-harm and attempted suicide.

Updated search

The committee chose not to pursue this question further but to refer to the NICE Clinical Guideline 16. A systematic literature review was not undertaken for this question.

Clinical Question 13. How should the treatment of common comorbidities (depression, psychosis, anxiety disorders, bipolar disorder, substance use disorder, other axis II disorders) be altered in the presence of BPD?

Please note that Clinical Question 11 was combined with Clinical Question 13 after searching the literature. A summary for both questions is provided below.

NICE Guideline summary

Notes: NICE did not specifically address this question in searches but made recommendations based on their general searches. NICE does not specifically refer to evidence on studies of comorbidity but refers to a clinical pathway on page 333 of the NICE Guideline.

Comorbidity of major psychiatric disorders in borderline personality disorder is widely reported in the literature, with mood disorders, anxiety disorders, eating disorders and drug and alcohol dependence being particularly common. This may lead to problems in diagnosis as some of the features of these disorders are inextricably linked to those of personality disorder. In general terms, psychiatric symptoms show particular characteristics when they are linked to borderline personality disorder compared with how they are expressed in independent psychiatric disorders. They tend to be short-lived and can fluctuate rapidly, they are likely to occur primarily in the context of interpersonal stress and they respond swiftly to structured interventions, such as admission or other environmental modification. The diagnosis of both borderline personality disorder and a comorbid disorder should therefore be reviewed before treatment is initiated, particularly if any diagnosis was made during an emergency presentation.

Any psychiatric symptoms that are integral to borderline personality disorder should be treated as part of that disorder. However, if a comorbid disorder is present, clinicians should assess the severity of it and follow the appropriate treatment guidelines. Patients with comorbid axis I and axis II disorders should receive best treatment for both disorders. The treating clinician may need to consider referral to another clinician or service for appropriate treatment of the comorbid disorder depending on their own training and experience, the context of treatment for borderline personality disorder and the severity and type of the comorbid disorder. For example, people with borderline personality disorder that is comorbid with a major psychosis, a severe eating disorder or substance dependence on Class A drugs are likely to require additional expertise if they are to have the best chance of improvement. Under these circumstances clinicians are advised to ensure appropriate arrangements are made for co-ordinated care with agreement on responsibilities and roles. If a comorbid disorder is diagnosed in the initial assessment of a person with borderline personality disorder, it may be most appropriate to refer them for treatment for the axis I disorder before commencing treatment for borderline personality disorder. However, if a person is already engaged in treatment for borderline personality disorder and a comorbid axis I disorder develops or becomes apparent during the course of treatment, a care co-ordinator should keep in contact with the person while they are receiving treatment for the axis I disorder so that they can continue with treatment for borderline personality disorder when appropriate.

The situation is more complex if the comorbid disorder includes predominant depression, PTSD or anxiety symptoms. In many patients these problems are best treated within a psychotherapeutic treatment programme for borderline personality disorder itself and no additional psychotherapy offered. If medication is required, integrating prescribing within the treatment programme may prevent inappropriate prescription of drugs.

NICE clinical practice recommendations

- Before starting treatment for a comorbid condition in people with borderline personality disorder, review:
 - o the diagnosis of borderline personality disorder and that of the comorbid condition, especially if either diagnosis has been made during a crisis or emergency presentation
 - o the effectiveness and tolerability of previous and current treatments; discontinue ineffective treatments.
- Treat comorbid depression, post-traumatic stress disorder or anxiety within a well-structured treatment programme for borderline personality disorder.
- Refer people with borderline personality disorder who also have major psychosis, dependence on alcohol or Class A drugs, or a severe eating disorder to an appropriate service. The care coordinator should keep in contact with people being treated for the comorbid condition so that they can continue with treatment for borderline personality disorder when appropriate.
- When treating a comorbid condition in people with borderline personality disorder, follow the NICE clinical guideline for the comorbid condition.

Updated search

Summary

There were few studies specifically looking at treatment of common comorbidities among people with BPD. Three papers by the same group, which seem to be from the same study, showed dynamic deconstructive psychotherapy was more effective that TAU in addressing both BPD and alcohol use disorder symptoms. One study of Dual focused schema therapy for co-occurring BPD and substance use disorders failed to show any benefit over individual drug counselling (IDC), and in fact IDC appeared to show more sustained reductions in symptoms. One study of Axis I disorders among those with BPD showed an improvement in substance use abstinence with DBT. Studies of anxiety and depression showed few benefits of psychological therapies, including a brief intervention to prevent crises (Cape Cod model). Clonidine showed an improvement in hyperarousal but not BPD symptoms among people with BPD and PTSD. A single study of cognitive therapy for people with BPD and bulimia nervosa concluded that no modification of the usual therapy for BPD was required for this group.

Evidence tables

BPD and substance use

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Gregory, R.J., Chlebowski, S., Kang, D., Remen, A.L., Soderberg, M.G., Stepkovitch, J. & Virk, S. (2008) A controlled trial of psychodynam ic psychotherap y for co- occurring borderline personality disorder and alcohol use disorder. Psychotherap y: Theory, Research, Practice,	RCT Level II A minimization method was employed for group assignment which allows for rolling allocation of participants into study groups while ensuring comparability of the two groups on key variables or factors and involves matched group metrics and assigning	N = 30	30 adults with diagnosis of BPD via Structured Clinical Interview for DSM–IV Axis II Personality Disorders, and active alcohol abuse or dependence (i.e., not in full sustained remission) assessed by the alcohol disorders module of the Structured Clinical Interview for DSM–IV–TR Axis I Disorders	The investigation treatment was a modified form of psychodynamic psychotherapy, labelled dynamic deconstructive psychotherapy (DDP). DDP was developed for particularly challenging cases of BPD, such as those with cooccurring substance use disorders or antisocial personality disorder. Treatment	TAU in the community - TAU participants received a variety of different kinds of treatments over the course of the study involving a combination of individual psychotherap y at a mental health clinic or independent practice, medication management, alcohol counselling, professional and self-help	Summary: Results showed that DDP was associated with statistically significant improvement in parasuicide, alcohol misuse, and institutional care. Most secondary outcome measures, including core symptoms of BPD, depression, and dissociation, also improved significantly when compared to controls who received variable community treatment as usual.	Primary outcome measures: Parasuicide behaviour (adapted 3- month version of the Lifetime Parasuicide Count); Alcohol misuse measured by the Addiction Severity Index; Institutional care (days in care in past 12 weeks) Secondary outcome measures: Depression (BDI);	12 – 18 months	Pre=post effect size: BPD symptom severity (BEST) DDP = 1.43, TAU = 0.73 (p=<0.5); BDI DDP = 0.76, TAU = 0.00 (p=<0.5) Social support DDP=0.77, TAU = 0.18 (p=<0.5).	A well-conducted study however the small sample size limits it power to detect treatment effects so results should be interpreted cautiously. QC 1.1=A 1.2=B 1.3=D 1.4=D 1.5=B 1.6=A 1.7=A 1.8=27% for voluntary
Training, 45(1), 28-41. USA	scores to each group based upon the		enrolled in the study. Participants	involved individual weekly sessions over 12 to 18	groups and/or case management. Most received	no statistically significant differences between groups	Dissociation (Dissociative Experiences Scale);			withdrawal and 33% when the incarcerated

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	distribution of the selected factors within each group and on each group's total number of participants. The specific factors adjusted for included: age, gender, alcohol abuse versus dependence, current alcohol use, antisocial personality disorder, inpatient utilization, and no. of parasuicides.		were primarily unmarried (90%), female (80%) and Caucasian (90%), with a mean ± SD age of 28.7 ± 7.7 yrs. Only 10 participants (33%) were engaged in part-time or full-time employment. 13 subjects (43%) had a co-occurring diagnosis of antisocial personality disorder and 5 subjects (17%) met criteria for bipolar disorder, Type I or II, all in the TAU group (p = .042). 20 subjects (67%) met criteria for alcohol dependence	months, defined during the initial sessions when the treatment contact was established, and followed a manual-based protocol.	a combination of individual psychotherap y and medication management.	either pretreatment or during the course of the study on parasuicide, alcohol misuse, or institutional care at each of the five time intervals (all p values >.13). However, there was statistically significant improvement over time on each measure for participants receiving DDP, but not for those receiving TAU. The proportion of DDP participants reporting parasuicide behaviour decreased from 73% (n = 11) pretreatment to 30% (n = 3) at 12 months. The absolute risk reduction for DDP relative to TAU was	Social support (Social Provisions Scale); Severity of BPD (Borderline Evaluation of Severity over Time)			participant was included. TAU dropout 40% (1 death by suicide) 1.9=A 1.10=F 2.1 = (+)

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence		Diagnosis							
	Lvidence		Other							
			and the			21% (the number				
			remainder (n			needed to treat				
			= 10) for			was five, indicating				
			alcohol abuse.			that for every five				
			12 subjects			persons treated				
			(40%)			with DDP, one				
			reported			more person would				
			currently			be free of				
			using illicit			parasuicide than if				
			drugs. 25			they had received				
			subjects (83%)			treatment in the				
			had prior			community).				
			history of illicit			The proportion of				
			drug use,			DDP participants				
			including			reporting incidents				
			heroin (n = 6),			of alcohol misuse				
			sedative			(>=5 drinks on a				
			hypnotics (n =			single occasion)				
			10), other			decreased from				
			opiates (n =			67% (n = 10) pre-				
			11),			treatment to 30%				
			amphetamine			(n = 3) at 12				
			s (n = 12),			months. Thus, the				
			hallucinogens			proportion of DDP				
			(n = 14),			participants				
			cocaine (n =			remaining				
			16), and			abstinent more				
			cannabis (n =			than doubled over				
			25).			the 12 months of				
						treatment. The				
			Exclusion			absolute risk				
			criteria			reduction for DDP				
			included			relative to TAU was				

Ref, Country	Study Design/ Level of	N (n)	Participants Age Gender	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Evidence									
	Evidence		Diagnosis Other diagnoses of schizophrenia or schizoaffective disorder, mental retardation, or a neurological condition that may produce secondary psychiatric symptoms (e.g., stroke, multiple sclerosis, partial complex seizures, or traumatic			14%, producing a number needed to treat of seven. The proportion of DDP participants needing institutional care decreased from 67% (n = 10) pretreatment to 10% (n = 1) at 12 months - the absolute risk reduction for DDP relative to TAU was 12%, producing a number needed to treat of eight.				
			brain injury).			measures: Compared to pretreatment, at 12 months DDP demonstrated medium to large effect sizes over time on most measures, with changes in core BPD symptoms (BEST), depression (BDI), and				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						dissociation (DES) reaching statistical significance. Community care did not result in significant improvements on any of the secondary measures. Significant group by time interaction effects ([omega]2 = .05) were demonstrated for BEST, BDI, and SPS scores.				
Gregory, R.J., Remen, A.L., Soderberg, M., & Ploutz- Snyder, R.J. (2009). A controlled trial of psychodynam ic psychotherap y for co- occurring borderline personality disorder and	RCT Level II This is an ongoing 30 month controlled study but only preliminary 3 and 6 month outcomes are reported in this paper	N=30 Treatme nt n =15 Control n = 15	Age mean (SD): Total sample 28.7±7.7 Gender: female 80% in total sample Diagnosis: Participants included thirty adults, ages eighteen to forty-five, meeting the DSM-IV	Dynamic deconstructive psychotherapy (DDP) is a time-limited, manual-based treatment that was developed for patients with BPD who are particularly difficult to engage in a therapeutic relationship, including those	Treatment as usual in the community	Summary: Improvements in both BPD and alcohol use disorder symptoms for DDP group greater than TAU Detail: During the first six months, both treatment groups received approximately the same number of individual treatment contact	Parasuicidal behaviour Episode of intoxication Drinking days Days using elicit substances Institutional care Inpatient days	3 and 6 month	Relative risks: Parasuicid al behaviour: DPP -38%; TAU 35% Episode of intoxicatio n: DPP - 31%; TAU 31% Institution al care: DPP -55%; TAU 32%	This was a poster summary in a peer reviewed journal. QC 1.1=A 1.2=B 1.3=D 1.4=F 1.5=E 1.6=C 1.7=E 1.8=27%

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
alcohol use			diagnostic	having co-		hours/month but			Effect	retention in
disorder: Six-			criteria for	occurring		the TAU	Emergency		sizes could	both groups
month			BPD and	substance use		participants	room visits		not be	at 6 months
outcome.			active alcohol	disorders. The		received more			calculated	1.9= D
Journal of the			abuse or	model employs		hours of group	Detail on the		due to	1.10=D
American			dependence,	elements of		therapy. Study	actual		lack of	2.1 = (-) little
Psychoanalyti			determined	object relations		retention rates	measures was		informatio	detail to
c Association,			by structured	theory,		were equivalent for	not provided		n	make a
57(1), 199-			diagnostic	deconstruction		both groups at six				judgement
205.			interviews	philosophy, and		months. However,				
				neurocognitive		therapist retention				
USA			Exclusion:	research to		rates differed				
			Exclusion	delineate		markedly between				
			criteria	specific		the treatment				
			included	integrative		groups (73% DDP				
			primary	functions of the		vs. 18% TAU).				
			psychotic	self that are		At 6 months: Risk				
			disorder,	targeted for		for parasuicidal				
			neurological	treatment over		behaviour in the				
			diagnosis, or	sequential		DDP group				
			mental	stages,		decreased by 38%,				
			retardation	including		as against an				
				functions of		increase in relative				
				association,		risk of 35% for TAU.				
				attribution, and		Even for				
				alterity. The		participants who				
				treatment aims		continued to report				
				to support		parasuicidal				
				integrative self-		behaviour, the				
				functions and to		number of				
				deconstruct		incidents decreased				
				pathological		by 64%, indicating a				
				attributions that		harm-reduction				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				can interfere		benefit.				
				with a		The relative risk for				
				therapeutic		an episode of				
				alliance. The		intoxication				
				therapist		decreased by 31%				
				attempts to		for both treatment				
				foster		groups over six				
				verbalization		months. Mean				
				and integration		number of drinking				
				of patient		days decreased by				
				experiences,		approximately half				
				narratives, and		in both groups				
				attributions		(53% for the DDP				
				while remaining		group; 48% for				
				generally		TAU). The mean				
				nondirective		number of days				
				and		using illicit				
				nonjudgmental,		substances				
				and relying on		decreased 54% for				
				moment-by-		DDP and 25% for				
				moment		TAU.				
				affective		The relative risk of				
				responses of		institutional care				
				both patient		decreased by 55%				
				and therapist to		for DDP and 32%				
				inform the		for TAU. In				
				appropriate		addition, the mean				
				intervention.		number of				
				Problematic		inpatient days				
				behaviours,		decreased by 94%				
				including		for DDP and 64%				
				alcohol misuse,		for TAU. The mean				
				are viewed as		number of visits to				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				maladaptive coping mechanisms and are explored nonjudgmentall y within the context of interpersonal narratives		the emergency department decreased by 93% for DDP and 86% for TAU.				
Gregory, R.J. DeLucia- Deranja, E., & Mogle, J.A. (2010). Dynamic deconstructiv e psychotherap y versus optimized community care for	RCT Level II	N=30 Treatme nt n= 15 Control n= 15	Age mean (SD): Treatment 28.3±7.1; Control 29±8.6 Gender – female (n, %): Treatment 13 (87%); Control 11 (73%)	Dynamic deconstructive psychotherapy (DDP): a time- limited, 1hr weekly individual treatment. Manual-based treatment for particularly challenging populations of	Optimized community care (OCC): referred to the best treatment available in the community within the restrictions of their own financial	Summary: Almost all DDP participants displayed clinically meaningful improvement by 12 months, compared with only 38% of participants receiving OCC. This difference was sustained during the naturalistic follow-up period	BPD section of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders The alcohol disorders module of the Structured Clinical			Sample size is small, making it difficult to draw firm conclusions. This difficulty is exacerbated by participants who were lost to followup.
borderline personality disorder co- occurring with alcohol use disorders: A 30-month follow-up. [Comparative			Diagnosis: Participants included 30 adults ages 18 to 45 yrs having BPD and active alcohol abuse (n =10) or dependence	BPD, especially those having co-occurring substance use disorders or antisocial personality disorder. Although DDP is offered as a	resources, availability of treatment, and their willingness to engage. Over the course of the study, their treatment	Detail: Relative to participants receiving OCC, DDP participants made large and statistically significant reductions over time in BPD	Interview for DSM-IV-TR Axis I Disorders Severity of BPD: Borderline Evaluation of Severity Over			QC 1.1=A 1.2=A 1.3=B 1.4=F 1.5=B 1.6=B 1.7=A 1.8=Tx 40%

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Study].			(n =20).	stand-alone	generally	symptoms and	Time (BEST)			dropped out
Journal of			Diagnosed via	treatment,	involved a	depression and	Beck			of treatment;
Nervous &			Structured	therapists	combination	more modest	Depression			Control 33%
Mental			Clinical	encourage the	of individual	improvement in	Inventory			dropped out
Disease,			Interview for	use of	psychotherap	dissociation. Gains	(BDI)			of treatment;
198(4), 292-			DSM-IV Axis II	adjunctive	y, medication	achieved during	(,			Tx and
298.			Personality	modalities, such	management,	treatment with	Dissociative			control 46.7%
			Disorders and	as group	alcohol and	DDP were	Experiences			dropped out
USA			Structured	therapy, family	drug	sustained during	Scale (DES)			of follow-up.
			Clinical	therapy, self-	counselling,	the naturalistic				1.9= A
			Interview for	help groups,	professional	follow-up period.	Treatment			1.10=D
			DSM-IV-TR	and	and self-help	An analysis of DDP	History			2.1 = (+)
			Axis I	medications.	groups (such	participant study	Interview			
			Disorders	The key deficit	as Alcoholics	completers (n = 8)	(THI)			
				of BPD within	Anonymous),	revealed large				
			Exclusion:	this model is	and/or case	repeated measures	Maladaptive			
			Exclusion	aberrant	management.	effect sizes	behaviours			
			criteria	processing of	During the	between baseline	were assessed			
			included	emotional	first 12	and 30 months for	by structured			
			schizophrenia	experiences.	months,	BEST and BDI	interviews,			
			or	DDP attempts	overall	scores) and a	including: (1)			
			schizoaffectiv	to remediate	treatment	medium effect size	Lifetime			
			e disorder,	deficits in 3	intensity of	for change in DES	Parasuicide			
			mental	neurocognitive	OCC tended to	score	Count,			
			retardation, or	functions	be higher than	As a group, the	modified in			
			neurological	putatively	DDP for total	participants who	the current			
			conditions	responsible for	paid	received OCC had	study to			
			having	adaptive	outpatient	mixed symptom	enumerate			
			secondary	processing of	mental health	changes. Symptoms	self-harm			
			psychiatric	emotional	contact hours	of BPD modestly	episodes and			
			symptoms.	experiences:	per month	improved, whereas	suicide			
				Association (the	(7.39±6.92 vs.	depression and	attempts over			
				ability to	4.79±2.81),	dissociation	the previous 6			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
				identify,	average	remained largely	months; (2)			
				acknowledge,	number of	unchanged at 30	Addiction			
				and sequence	psychotropic	months as	Severity Index			
				emotional	medications	compared with	(McLellan et			
				experiences),	used (2.67 ±	baseline.	al., 1992)			
				Attribution (the	1.45 vs. 2.34 ±	Both groups of	quantifies			
				ability to form	1.61) and	participants	substance use			
				complex and	proportion	displayed marked	over the prior			
				integrated	participating	improvement in	month, such			
				attributions of	in self-help	parasuicide	as heavy			
				self and others),	groups (55%	behaviour over	drinking			
				and Alterity (the	vs. 20%).	time, including self-	(consuming ≥5			
				ability to form		harm and suicide	drinks on a			
				realistic and		attempts. By 30	single			
				differentiated		months,	occasion),			
				attributions of		participants who	recreational			
				self and others)		had received DDP	drug use, as			
				Interventions		were no longer	well as related			
				that repeatedly		engaged in	health and			
				activate these		parasuicide. This	social			
				neurocognitive		was a significant	problems.			
				functions form		change from				
				the foundation		baseline and a large	Social			
				of DDP.		treatment effect.	support:			
				All DDP		Among OCC	Social			
				participants		participants, the	Provisions			
				were required		frequency of	Scale (SPS)			
				to terminate		parasuicide also				
				treatment with		significantly	Occupational			
				DDP after 12 to		improved from	functioning:			
				18 months. Half		baseline to 30	item from			
				of the		months; however, a	Addiction			
				participants		third were still	Severity Index			

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other	elected to discontinue any type of individual psychotherapy and the other half were referred to nonspecific supportive psychotherapy in the community.		participating in this behaviour during the 24 to 30 month follow-up period. Participants receiving DDP reported no suicide attempts from 6 to 12 months and they remained free from attempts during the 24 to 30 month interval. OCC participants made significantly more suicide attempts during 6 to 12 months of treatment than did DDP participants, but were no longer reporting suicide attempts during the 24 to 30 month follow-up. DDP participants displayed significant	that elicits, "How many days were you paid for working in the past 30 days?"			
						improvement in heavy drinking behaviour from baseline to 30 months and a large				

repeated measures treatment effect. OCC participants reported significantly more heavy drinking at 12 months than those receiving DDP and did not display significant change over time. However, OCC participants made some improvement in this behaviour during the naturalistic follow- up phase of the study such that there was only a trend for between- group statistically	Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
significant differences by 30 months. Recreational drug use completely remitted by the end of treatment with DDP and was still in remission at 30- month follow-up,							treatment effect. OCC participants reported significantly more heavy drinking at 12 months than those receiving DDP and did not display significant change over time. However, OCC participants made some improvement in this behaviour during the naturalistic follow- up phase of the study such that there was only a trend for between- group statistically significant differences by 30 months. Recreational drug use completely remitted by the end of treatment with DDP and was still in remission at 30-				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Other			large repeated measures effect size over the course of the study. For OCC participants, recreational drug use slightly worsened over time. At 30-month follow-up, most of the OCC participants (n = 5) were using recreational drugs. Social and occupational functioning tended towards greater improvement among DDP than OCC participants. Although betweengroup differences were not statistically significant, perceived social support, as measured by SPS scores, significantly				
						improved for DDP participants at 30 months compared				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes with baseline.	Measure/s	Length of follow-up	Effect Size	Comments
						Improvement in paid employment days trended towards significance.				
Ball, S.A., Maccarelli, L.M., LaPaglia,	RCT Level II	N=105 n=54 Tx	105 residents, 81% male, mean age 26.5 yrs, 53%	Manual-guided, weekly Dual Focused Schema	Manual- guided weekly individual drug	Summary: There were significant main effects for borderline PD for	Brief Symptom Inventory Global	6 months		Subjects with personality disorders started with
D.M., Ostrowski, M.J. (2011) Randomized		n=51 C	European- America, 27% African- American	Therapy (DFST) individual therapy delivered during	counselling (IDC) delivered during the	BSI symptoms, IIP problems and MAACL dysphoria	Severity Index Dysphoria, anxiety,			higher psychiatric, interpersonal , and
trial of dual- focused vs. single- focused			29% current DSM-IV diagnosis of	the first 6 months in a residential TC. DFST =	first 6 months in a residential therapeutic community.	Detail: Participants diagnosed with borderline PD showed significant	depression, and hostility subscales of Multiple-			dysphoria symptoms, and both therapies
individual therapy for personality disorders and			substance dependence, lifetime diagnoses:	integrated cognitive behavioural coping skills for	specifically focused on addiction and	symptom reductions during the first 3 months in both therapy	Affect Adjective Checklist (MAACL)			reduced symptoms during 6 months of
substance dependence. J Nerv Ment			alcohol 41%, cocaine 31%, cannabis 31%,	substance use with targeted interventions	it addressed symptoms by providing	conditions, however IDC showed continued	Revised Interpersonal			residential treatment of substance
Dis 199(5), 319-28. USA			opiates 20%. Mean number of previous AOD	for early maladaptive affective reactions,	exposure to various recovery topics and	reductions during the remaining 3 months, whereas DFST showed no	problems - Inventory of Interpersonal Problems (IIP)			dependence. The size of the BPD disorder sub-
OJA.			treatment =2, mean previous psychiatric	relational problems, and maladaptive behavioural	topics and tools. IDC did not target personality or	further improvement. The three-way interaction of PD X	General Therapist Skills and			group was also small so results must be

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			treatment =1.2, mean lifetime criminal convictions = 7.3, mean arrests =13.7, mean number of moths incarcerated =16.1. 29.5% (n=31) met Personality Diagnostic Questionnaire Version 4 Revised criteria for BPD Other PDs included paranoid (54%) and antisocial (50%). 39% met no PD diagnostic criteria 54 subjects were randomized to DFST (n=12	coping styles.	other psychiatric disorders and had very little overlap with DFST.	Time X Therapy condition was significant. IDC resulted in more sustained reductions than did DFST in psychiatric and affective symptoms BPD, but not for non-PD participants. Investigators concluded that the value of adding dual-focus therapies for a range of co-occurring PDs and substance dependence in residential rehabilitation settings was not supported by this trial.	session characteristics – Adherence/Co mpetence Rating Scale			interpreted with caution. As the study was conducted in a residential treatment setting, results cannot be generalised to outpatient settings where clients are exposed to substances. QC 1.1=A 1.2=A 1.3=A 1.4=B 1.5=A 1.6=A 1.7=B 1.8= 50% left residential rehab early 1.9=A 1.10=F 2.1 = (++)

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
			BPD), 51 to							
			IDC (n=19							
			BPD).							
Harned, M.	RCT	N=101	Age mean:	DBT	The CTBE	Summary: There	Structured	1 year	Standardis	Data was
S., Chapman,			T= 29.0;		condition was	were no differences	Clinical	(+ 4	ed mean	from the
A.L., Dexter-	Level II	T ; n=52	C= 29.6		developed to	between DBT and	Interview for	monthly	difference	Linehan et al
Mazza, E.T.,					control for	community	DSM-III-R	assessmen	s between	(2006) study
Murray, A.,	Participants	C ; n= 49	Gender: all		expertise,	treatment on	Personality	ts during	treatment	to examine
Comtois, K.A.,	were		female		treatment	number of Axis I	Disorders and	12 month	groups d	the efficacy
& Linehan,	randomly				allegiance,	disorders. But DBT	International	treatment)	(95% CI)	of DBT versus
M.M. (2008).	assigned to		Diagnosis:		availability of	was more likely to	Personality		Proportion	CTBE in
Treating co-	condition		Participants		a clinical	reach full	Disorders		of Axis I	treating co-
occurring Axis	by the		were 101		supervision	remission. Those	Examination		disorders	occurring Axis
I disorders in	participant		women (age		group,	with substance use			reaching	I disorders
recurrently	coordinator,		18-45) who		prestige,	disorders were	TX HX		full	among
suicidal	who used a		met criteria		general	more often	interview		remission,	suicidal BPD
women with	computerized		for BPD and		factors and	abstinent.	assessed		d = 0.20	patients.
borderline	adaptive		reported at		assistance in		psychotropic		(-0.24,	
personality	minimization		least two		finding a	Detail: Overall, DBT	medications.		0.63)	Because
disorder: A 2-	randomizatio		suicide		therapist,	and CTBE patients			Proportion	patients in
year	n		attempts		availability of	did not significantly	Longitudinal		of fully	DBT reported
randomized	procedure		and/or non-		affordable and	differ in the	Interval		remitted	fewer BPD
trial of	that matched		suicidal self-		sufficient	proportion of Axis I	Follow-Up		Axis I	criterion
dialectical	participants		injury acts in		treatment	disorders that	Evaluation		disorders	behaviours
behaviour	on five		the past 5		hours, and	reached full	(LIFE):		that later	(i.e., suicide
therapy	primary		years, with at		therapist	remission or that	retrospective		relapsed,	attempts)
versus	prognostic		least one act		gender,	subsequently	ratings of Axis		d = 0.02	and less
community	variables.		in the 8-week		training, and	relapsed.	I disorders for		(-0.50,	psychotropic
treatment by			pre-study		clinical	For specific Axis I	each week of		0.54)	medication
experts.			period.		experience.	disorders, DBT	the study.		Compariso	use during
Journal of						patients were			n rates of	the study
Consulting			BPD		Community	significantly more	Time line		full	than did CTBE
and Clinical			diagnosed by		mental health	likely to achieve full	follow-back		remission	patients

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Day sala al a ay s			Other		landana	manajasian frans CDD			/C = l= = =/ =	/1:
Psychology,			Structured		leaders	remission from SDD	procedure:		(Cohen's	(Linehan et
76(6), 1068-			Clinical		nominated	than were CTBE	assigned		w):	al., 2006),
1075			Interview for		CTBE	patients.	weekly		Remission	they also
LICA			DSM-III-R		therapists as	DBT patients spent	psychological		MDD,	examined
USA			Personality		experts in the	significantly more	status ratings		w=0.2	whether
			Disorders and		treatment of	time in partial	(PSRs) for		(-0.05,	these
			International		difficult	remission and less	each disorder		0.45)	variables
			Personality		patients.	time in no	identified at		Remission	explained any
			Disorders		CTDE	remission from SDD	pre-treatment		Panic, w =	significant
			Examination		CTBE	than did CTBE	via the SCID–I.		0.06,	group
			Freshorian.		therapists	patients.			(0.28,0.41)	differences in
			Exclusion:		excluded who	Survival analysis of	For substance		Remission	Axis I
			Exclusion		self-identified	the time to the first	dependence		PTSD, w =	disorder
			criteria were		as cognitive or	full remission did	disorders		0.12	remission.
			(a)		behavioural in	not indicate	(SDD), used		(-0.18,	00
			schizophrenia,		orientation.	significant	the remission		0.42)	QC
			schizoaffectiv			differences	criteria from		Remission	1.1=A
			e disorder,			between	the Diagnostic		other	1.2=A
			bipolar			treatments for any	and Statistical		anxiety	1.3=B
			disorder,			Axis I disorder.	Manual of		disorders,	1.4=B
			psychotic			Similarly, DBT	Mental		w = 0.08	1.5=A
			disorder not			patients and CTBE	Disorders - full		(-0.25,	1.6=B
			otherwise			patients did not	remission as		0.41)	1.7=A
			specified, or			significantly differ	at least 8		Remission	1.8=All were
			mental			in rates of relapse	consecutive		SDD, w =	analysed in
			retardation;			for any Axis I	weeks with		0.55 (0.17,	intention-to-
			(b) a seizure			disorder.	minimal or no		0.93)	treat but:
			disorder 			DBT patients with	symptoms.		Remission	30%
			requiring			SDD reported a			Eating	treatment
			medication;			significantly greater	Proportion of		Disorder,	dropped out
			(c) a mandate			proportion of drug-	days abstinent		w = 0.12	of
			to treatment;			and alcohol-	from drugs		(-0.39,	treatment/los
			or (d) the			abstinent days	and alcohol		0.63)	t to follow-

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			need for primary treatment for another debilitating condition.			across time than did CTBE patients with SDD. DBT and CTBE patients with SDD did not significantly differ in the number of BPD criteria met or in use of psychotropic medication.	during treatment and follow-up measured via TLFB.		Remission All disorders combined, w = 0.08 (-0.14, 0.3) Time spent in not remission of SDD, d = 1.15 (0.07,2.11) . No other effect sizes were significant for time spent in full, partial or no remission for any disorder. Rate of relapse was also not significant and so has not been reproduce d here	up; 71% control dropped out/lost to follow-up 1.9= A 1.10=F 2.1 = (++)

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
	Lvidelice		Other							
			34.16.						(available	
									in original	
									document	
). No. of	
									BPD	
									criteria	
									met, d =	
									0.16	
									(-0.95,	
									1.24)	
									Use of	
									psychotro	
									pic	
									medicatio	
									ns, d= 0.79	
									(-0.24,	
									1.73)	

BPD and Anxiety and mood disorders

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Ziegenhorn,	RCT	N=62	All patients	Clonidine	Placebo	Summary:	Mini International	6 weeks	Standardised	Small
A.A., Roepke,	Level II	n = 18	were white, 1	A slow dose-	Capsule	Significant	Neuropsychiatric		change	sample size
S., Schommer,			patient was a	escalation		improvement in	Interview for		scores	but still
N.C., Merkl,	Within-		male, and 17	scheme was		hyperarousal for	DSM-IV and the		between	showed
A., Danker-	subject,		patients were	used to reach		patients with PTSD	Structured		baseline and	improveme
Hopfe, H.,	double-blind,		female.	the target dose		for clonidine	Clinical Interview		follow-up for	nt
Perschel, F.H.,	placebo-			of 1 capsule		compared to	for DSM-IV		clonidine	
Heuser, I.,	controlled		The mean (SD)	(0.150 mg of		control but not	personality		group:	cq
Anghelescu,	cross over		age of the BPD	clonidine) in the		measures of	disorders.		CAPS-D d=	1.1=A
I.G.,	design		patients in this	morning and 2		general			-2.36 (95% CI	1.2=B
Lammers,	(block		study was 32	capsules (0.300		psychopathology or	Hyperarousal was		-3.26, -1.46)	1.3=E
C.H. (2009).	randomisation		(8) yrs (range,	mg of clonidine)		BPD symptoms.	measured by the		BSL d= -0.46	1.4=D
Clonidine	to receive		19-44 yrs).	at bedtime at		Mild adverse	clinician-		(95% CI	1.5=E
improves	either			the end of week		effects reported	administered		-0.94, 0.03)	1.6=C
hyperarousal	clonidine or		88% had	1.			PTSD scale (CAPS-		SCL-90-R d=	1.7=A
in borderline	placebo first)		psychiatric			Detail: Treatment	D).		-0.63 (95% CI	1.8=17% of
personality			comorbidities;	Participants		with clonidine			-1.13, -0.12)	the total
disorder with			the most	were assessed		resulted in a	BPD typical		BDI d= -0.80	sample
or without			prevalent axis	during week 2.		significant 18.3%	symptoms were		(95% CI	dropped out
comorbid			I disorder was	During week 3,		improvement in	assessed using		-1.33, -0.27)	during the
posttraumatic			PTSD (12	medication/plac		hyperarousal. The	the borderline		Standardised	placebo and
stress			patients)	ebo was		improvement in the	symptom list		change	11% of the
disorder: A			followed by	tapered to zero.		PTSD positive	(BSL).		scores	total sample
randomized,			eating	Week 4 was		subsample was			between	dropped out
double-blind,			disorders (9	used for a drug		21.2% (z =	The Symptom		baseline and	after
placebo			patients), and	washout. From		-2.67, P = 0.008)	Checklist 90		follow-up for	clonidine;
controlled			substance	week 5, patients		compared with a	revised (SCL-90-R)		placebo	29% of the
trial. Journal			abuse (7	were switched		13.1%	with its 9		group:	total sample
of clinical			patients).	to the alternate		improvement in the	subscales.		CAPS-D d=	after
psychopharm			Ten patients	treatment and		PTSD-negative			-1.26 (95% CI	randomisati
acology,			were on	evaluated in		subsample (z = -	Beck Depression		-1.8, -0.64)	on dropped

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
29(2), 170-			antidepressan	week 6 as		1.46, p = 0.144).	Inventory (BDI).		BSL d= -0.26	out.
173.			t medication	before.		The improvement			(95% CI	
			(91% second			of general	24-hour urine was		-0.73, 0.21)	1.9=C
Germany			generation			psychopathology	collected for		SCL-90-R d=	1.10=F
			antidepressan			scores (SCL-90-R) in	catecholamine		-0.34 (95% CI	2.1 = (-)
			ts), 3 were on			the whole sample	measurements.		-0.82, 0.13)	
			antipsychotics			did not reach			BDI d= -0.49	
			, and 1 patient			conventional levels			(95% CI	
			was on			of significance.			-0.98, 0.00)	
			valproate.			Clonidine had no			Standardised	
			Dropouts			effect on			mean	
			were not			borderline-typical			difference	
			related to the			symptoms in the			between	
			study or			whole sample			clonidine and	
			adverse			(BSL).			placebo:	
			effects of the			Adverse effects,			CAPS-D d=	
			medication.			when present,			1.01 (95% CI	
						were mild.			0.44, 1.58)	
			Inpatients			Hyperarousal as			BSL d= 0.17	
						measured by the			(95% CI	
						Clinician			-0.30, 0.63)	
						Administered PTSD			SCL-90-R d=	
						scale improved			0.24 (95% CI	
						significantly			-0.23, 0.71)	
						compared with			BDI d= 0.22	
						placebo (P = 0.003)			(95% CI	
						irrespective of			-0.25, 0.69)	
						PTSD comorbidity.				
						Improvements in				
						general and BPD-				
						typical				
						psychopathology				
						were mainly seen in	ĺ		1	

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						the PTSD-positive subgroup, whereas the subjective sleep latency (P = 0.005) and the restorative qualities of the sleep (P=0.014) improved in the whole sample. Authors conclude that clonidine might be a useful adjunct to pharmacotherapy in patients with BPD who have marked hyperarousal and/or sleep problems and, in particular, in patients with BPD who have a PTSD comorbidity.				
Harned, M.S., Chapman, A.L., Dexter- Mazza, E.T., Murray, A., Comtois, K.A., & Linehan,	RCT Level II Participants were randomly	N=101 T; n=52 C; n=49	Age mean: T= 29.0; C=I 29.6 Gender: all female	DBT	The CTBE condition was developed to control for	Summary: There were no differences between DBT and community treatment on number of Axis I	Structured Clinical Interview for DSM-III-R Personality Disorders and International Personality	1 yr (+ 4 monthly assessme nts during 12 month treatmen	Standardised mean differences between treatment groups d (95% CI)	Data was from the Linehan et al (2006) study to examine the efficacy of
M.M. (2008). Treating co-	assigned to condition		Diagnosis: Participants		expertise, treatment allegiance,	disorders. But DBT was more likely to	Disorders Examination	t)	Proportion of Axis I	DBT versus CTBE in

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
occurring Axis	by the		were 101		availability	reach full			disorders	treating co-
I disorders in	participant		women (age		of a clinical	remission. Those	TX HX interview		reaching full	occurring
recurrently	coordinator,		18–45) who		supervision	with substance use	assessed		remission, d	Axis I
suicidal	who used a		met criteria		group,	disorders were	psychotropic		= 0.20	disorders
women with	computerized		for BPD and		prestige,	more often	medications.		(-0.24, 0.63)	among
borderline	adaptive		reported at		general	abstinent.			Proportion of	suicidal BPD
personality	minimization		least two		factors and	Detail: Overall, DBT	Longitudinal		fully	patients.
disorder: A 2-	randomization		suicide		assistance in	and CTBE patients	Interval Follow-		remitted Axis	
year	procedure		attempts		finding a	did not significantly	Up Evaluation		I disorders	Because
randomized	that matched		and/or non-		therapist,	differ in the	(LIFE):		that later	patients in
trial of	participants		suicidal self-		availability	proportion of Axis I	retrospective		relapsed, d =	DBT
dialectical	on five		injury acts in		of affordable	disorders that	ratings of Axis I		0.02	reported
behaviour	primary		the past 5		and	reached full	disorders for each		(-0.50, 0.54)	fewer BPD
therapy	prognostic		years, with at		sufficient	remission or that	week of the		Comparison	criterion
versus	variables.		least one act		treatment	subsequently	study.		rates of full	behaviours
community			in the 8-week		hours, and	relapsed.			remission	(i.e., suicide
treatment by			pre-study		therapist		Time line follow-		(Cohen's w):	attempts)
experts.			period.		gender,	For specific Axis I	back procedure:		Remission	and less
Journal of					training, and	disorders, DBT	assigned weekly		MDD, w= 0.2	psychotropi
Consulting			BPD		clinical	patients were	psychological		(-0.05, 0.45)	С
and Clinical			diagnosed by		experience.	significantly more	status ratings		Remission	medication
Psychology,			Structured			likely to achieve full	(PSRs) for each		Panic, w=	use during
76(6), 1068-			Clinical		Community	remission from SDD	disorder		0.06, (0.28,	the study
1075			Interview for		mental	than were CTBE	identified at pre-		0.41)	than did
			DSM-III-R		health	patients.	treatment via the		Remission	CTBE
USA			Personality		leaders		SCID-I.		PTSD, w=	patients
			Disorders and		nominated	DBT patients spent			0.12	(Linehan et
			International		CTBE	significantly more	For substance		(-0.18, 0.42)	al., 2006),
			Personality		therapists as	time in partial	dependence		Remission	they also
			Disorders		experts in	remission and less	disorders (SDD),		other anxiety	examined
			Examination		the	time in no	used the		disorders, w=	whether
					treatment of	remission from SDD	remission criteria		0.08	these
			Exclusion:		difficult	than did CTBE	from the		(-0.25, 0.41)	variables

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
			Exclusion		patients.	patients.	Diagnostic and		Remission	explained
			criteria were				Statistical Manual		SDD, w= 0.55	any
			(a)		СТВЕ	Survival analysis of	of Mental		(0.17, 0.93)	significant
			schizophrenia,		therapists	the time to the first	Disorders - full		Remission	group
			schizoaffectiv		excluded	full remission did	remission as at		Eating	differences
			e disorder,		who self-	not indicate	least 8		Disorder,	in Axis I
			bipolar		identified as	significant	consecutive		w = 0.12	disorder
			disorder,		cognitive or	differences	weeks with		(-0.39, 0.63)	remission.
			psychotic		behavioural	between	minimal or no		Remission All	00
			disorder not otherwise		in orientation.	treatments for any Axis I disorder.	symptoms.		disorders	QC 1.1=A
			specified, or		orientation.	Axis i disorder.	Proportion of		combined, w = 0.08	1.1=A 1.2=A
			mental			Similarly, DBT	days abstinent		(-0.14, 0.3)	1.2=A 1.3=B
			retardation;			patients and CTBE	from drugs and		Time spent	1.3-в 1.4=В
			(b) a seizure			patients did not	alcohol during		in not	1.4=B 1.5=A
			disorder			significantly differ	treatment and		remission of	1.6=B
			requiring			in rates of relapse	follow-up		SDD, d = 1.15	1.7=A
			medication;			for any Axis I	measured via		(0.07, 2.11).	1.8=All were
			(c) a mandate			disorder.	TLFB.		No other	analysed in
			to treatment;						effect sizes	intention-
			or (d) the			DBT patients with			were	to-treat but:
			need for			SDD reported a			significant	30%
			primary			significantly greater			for time	treatment
			treatment for			proportion of drug-			spent in full,	dropped out
			another			and alcohol-			partial or no	of
			debilitating			abstinent days			remission for	treatment/
			condition.			across time than			any disorder.	lost to
						did CTBE patients			Rate of	follow-up;
						with SDD.			relapse was	71% control
									also not	dropped
						DBT and CTBE			significant	out/lost to
						patients with SDD			and so has	follow-up
						did not significantly			not been	1.9= A

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
						differ in the number of BPD criteria met or in use of psychotropic medication.			reproduced here (available in original document). No. of BPD criteria met, d=0.16 (-0.95, 1.24) Use of psychotropic medications, d = 0.79 (-0.24, 1.73)	1.10=F 2.1 = (++)
Laddis, A. (2010) Outcome of crisis intervention for borderline personality disorder and post- traumatic stress disorder: a model for modification of the mechanism of disorder in complex post	Comparative study with concurrent controls - Level III-2-A	n=58. n=32 in experime ntal condition & n=26 controls. Cases recruited from one short-stay voluntary residenti al unit (Crisis Stabilizat	Met DSM-IV criteria for BPD (n = 54) or PTSD (n = 4). n=49 females, n=9 males (8 in experimental group which was significant, p=0.027). Mean 33.2 yrs cases, 37.2 controls.	'Cape Cod model' of crisis intervention which helps clients to assess the safety of stress-inducing relationships and limit repetitive and maladaptive behaviours and associated symptoms, plus medication & relaxation. The complete intervention	TAU consisting of medication, supportive psychothera py, problem solving, occasional analysis of the transference and elements of Dialectical Behavioural Therapy.	Taking into account the covariates gender and pre-BPRS score, BPRS scores improved significantly for cases (baseline 34.8 vs 14.3 at follow-up, p=≤0.001) but not for controls (baseline 26.9 vs 23 at follow-up, NS). There was significant improvement in control group on BPRS domains of withdrawal	Brief Psychiatric Rating Scale (BPRS) Brief Symptom Inventory (BSI) Clinician rated observations of crisis behaviour (Client Observation Scale)	8-24 hrs following treatmen t	See outcome column	Intervention only vaguely described. Very short follow-up so clinical significance is difficult to determine. Although most subjects had BPD. results were not reported separately for this group.

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
syndromes. Ann Gen Psychiatry. 27(9), 19. USA		CSU) that stabilise patients with self-harming behaviou rs. Controls recruited from 2 other CSUs.	Cases had higher BPRS scores at baseline (34.8, SD 9.7) than controls (26.9. SD 8; p = 0.002).	to 2 hours initially and then in several shorter sessions over 1 or 2 days.		anxiety-depression (p=≤0.001), hostility-suspiciousness p=≤0.001), and activation p=≤0.005), but little change among controls. There was greater improvement in the Client Observation ratings in the experimental group (M = 7.0, F= 11.859, P = 0.001, partial Eta2 = 0.180). Cases were less likely to have a change in medication than controls (41% vs 92%). There was no significant difference in the BSI I score among				

BPD and eating disorders

Ref,	Study	N (n)	Participants	Intervention	Compariso	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age		n			follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Rowe, S.L,	Follow-up of	N=134	28% (n=38)	Eight	Eight	Summary: Women	Eating disorder	Follow-up	There was a	The small
Jordan, J.,	RCT		met DSM-III-	sessions of	sessions of	with BN and BPD	symptoms and	data were	significant	sample size
McIntosh,	Level II		R criteria for	cognitive	cognitive	did not differ	general	available	effect for HA	in the 3
V.V, Carter,			BPD.	therapy plus	therapy	significantly from	functioning-	for 101	in the BPD	groups may
F.A, Bulik,	Follow-up of			eight	plus eight	the other PD and		women	(Wilks' λ =	have
C.M, Joyce,	subjects from			sessions (i)	sessions of	no PD groups in	Comprehensive	(75%) at 1	0.34, F (2,14)	decreased
P.R. (2008)	previous RCT			exposure to	relaxation	eating disorder	Bulimia	yr follow	= 13.88,	the power
Impact of	which			pre-binge	training	symptoms and	Severity Index	up and 112	p<.001,	to detect
borderline	evaluated the			cues with		attitudes at 1 year	(CBSI)	(84%) at 3	multivariate	significant
personality	additive			binging		and 3 year follow		yr. follow	partial η2 =	differences
disorder on	efficacy of			being		up.	Depression –	up.	0.67) and no	, increasing
bulimia	exposure-			prevented			HDRS		PD groups	the
nervosa.	based versus			(B-ERP) or		Detail: General and		Ninety-two	(Wilks' λ =	likelihood
Aust N Z J	non-exposure-			(ii) exposure		psychiatric	Global	participants	0.67, F (2, 34)	of Type II
Psychiatry.	based			to pre-purge		functioning as	Assessment of	were	= 8.5, p<.001,	error.
Dec; 42(12),	behavioural			cues with		measured on the	Functioning –	available	multivariate	No
1021-9.	treatments to			purging		GAF and HDRS	GAF	for all three	partial η2 =	indication
	a core of			being		showed		time points	0.33).	of which
New	cognitive			prevented		improvements for	Personality	(including		original
Zealand	behaviour			(P-ERP)		all three groups at	traits -	baseline).	SD also	group
	therapy for					1 year follow up.	Temperament		showed	patients
	BN.					No significant	and character		significant	allocated
						differences among	inventory (CTI)		within-group	**No
	RCT					the groups were			effects in the	checklist as
	Participants:					found at 1 year			no PD group	was follow
	women 17-45					follow up.			across 3 yrs	up to RCT

yrs (n=134),	At 3 year foll	ow up	(Wilks' λ =	no actual
with a current	eating disord	ler	0.51, F (2, 34)	RCT
DSM-III-R	symptoms w	ere	= 16.36,	
diagnosis of	improved in	all	p<.001,	
BN.	three groups	and	multivariate	
	general psyc	hiatric	partial η2 =	
Exclusion	functioning of	did not	0.49).	
criteria were	differ among	; the	Despite an	
AN, obesity	three groups	i.	increase of	
(BMI>30),	Overall, the	BPD	one standard	
severe MDD,	group had th	ie	deviation in	
substance use	lowest rate of	of any	SD, the BPD	
disorder,	eating disord	ler	group had a	
BPAD,	diagnoses at	follow	smaller effect	
schizophrenia,	up - 35% and	I 24%	size than the	
severe	at 1 and 3 yr	s,	no PD group	
medical illness	respectively,		(Wilks' λ =	
or	compared to	45%	0.59, F (2, 14)	
complications	and 31% for	other	= 4.8, p<.03,	
of BN, use	PD and 38%	and	multivariate	
psychoactive	36% for no P	D.	partial η2 =	
meds and	Differences i	n	0.41). The	
unwillingness	personality p	profiles	other PD	
to undergo	between the	BPD	group had no	
supervised	and no PD gr	oup	significant	
drug wash-out	evident at fo	llow	within-group	
period.	up were on		changes in HA	
	measures of	harm	or SD across 3	
	avoidance (H	IA) and	yrs	
	self-directed	ness		
	(SD).			

Clinical Question 14. Among people with BPD what treatment modes of delivery are most effective in reducing suicide/self-harm, psychopathology, increasing functioning? (face to face, group, online, self-help)

NICE Guideline summary

This was a new question – No NICE summary is available

Updated search

Summary

One study was found that examined video delivery of emotional regulation intervention and showed a benefit of a DBT module video delivery over a control video.

Evidence table

Ref,	Study Decign /	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/ Level of		Age Gender					follow-up	Size	
	Evidence		Diagnosis							
			Other							
Waltz, J.,	Within	N=30	Age: 32.5yo	Opposite Action:	The control	Summary:	Screening	Post each	Skills	No blinding
Dimeff, L.	subjects	(6 Excluded)	Gender: 96% F	Changing	condition	Viewing the	(predictors of	video	knowledge =	within subjects
A.,	quasi		All met DSM-	Emotions You	was	video was	outcome):	(Time 2	0.40	design. First
Koerner,	experimental		IV criteria for	Want to Change	designed to	associated with	Structured	and Time	Outcome	subject
K.,	design (see		BPD based	features DBT	control for	significant	Clinical	3)	expectancies	allocated to
Linehan,	comments)		Inclusion/excl	treatment	factors of	increases in	Interview for		= 0.83	initial video
M. M.,			usion	developer,	time,	knowledge of	DSM-IV, I & II;			randomly
Taylor, L.,	Level III-1		criteria: (1) 18	Marsha M.	attention,	the skill,	Beck Depression			(randomisatio
& Miller,			yrs of age or	Linehan,	and	relative to	Inventory			n method not
C. (2009).			older, (2)	teaching	repeated	viewing a	Dependent: Skill			stated) and all
Feasibility			literate, (3)	"opposite	testing. The	control video,	knowledge:			subsequent
of using			meets BPD	action," a skill	control	and with	Opposite Action			participants
video to			criteria, (4) no	from the DBT	condition	increases in	Knowledge			alternated
teach a			previous	emotion-	video	participants'	Questionnaire;			between the
dialectical			formal DBT	regulation	recording	expectations of				two

Clinical Question 14 414

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
behaviour			treatment, (5)	module.	was selected	positive	Outcome			conditions.
therapy			not actively		to be similar	outcomes for	expectancies			
skill to			psychotic, (6)		in length and	skill use. In	(developed			QC
clients			estimated		production	addition,	based on			1.1=A
with			verbal IQ of 90		quality to	participants	Fromme et al			1.2=B
borderline			or above		the	rated the video	1986); Client			1.3=C
personality			(based on AM-		experimental	as relevant and	satisfaction on a			1.4=C
disorder.			NART score;		video, but	helpful. A	8-item 5 point			1.5=C
Cognitive			(7) aware of		not on a	remarkably	Likert scale; Skill			1.6=B
and			diagnostic		mental	high number	use and			1.7=A
Behaviour			status, and (8)		health topic.	(80 %) utilized	effectiveness:			1.8=Not
al Practice,			currently a		It was an	the skill taught	Participants			reported
16(2), 214-			client of a		episode from	subsequent to	were provided a			1.9= D
222.			mental health		a PBS series	viewing the	homework			1.10=F
			treatment		entitled "The	video when	sheet that was			2.1 = (-) a
USA			provider		Desert	assigned to do	based on one			reasonably
			(numbers 7		Speaks" on	so, and overall	from Linehan's			well reported
			and 8 were		the	reported	Skills Training			and analysed
			included to		"culinary,	significant	Manual for			study but
			address IRB		medicinal	decreases in	BPD			method of
			concerns).		and scientific	negative affect				randomisation,
					uses" of	after using the				allocation
					pepper	skill.				method and
					plants					concealment
										and lack of
										blinding
										introduce bias.

Clinical Question 14 415

Clinical Question 15. What type of services maximise effectiveness and safety and minimise harm (taking into account long-term outcomes) for the delivery of specific treatments for people with BPD? (for example, day hospitals, inpatient, therapeutic communities, use of enhanced care programming, team-based or individual-based care, partial hospitalisation)

NICE Guideline summary

No studies were identified by the NICE guideline committee that were relevant. See page 310 NICE guidelines.

Updated search

Summary

Two studies were identified, one examining a post-emergency department admission to a general hospital and the other examining outcomes from day hospital, inpatient and outpatient care.

Evidence table

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Berrino, A., Ohlendorf, P., Duriaux, S., Burnand, Y., Lorillard, S., Andreoli, A. (2011). Crisis intervention at the general hospital: An appropriate treatment choice for acutely suicidal borderline	Prospective cohort study - Level III-2	n=100 crisis intervention (CI), n=100 TAU	BPD + deliberate self-harm. Intervention group: mean age 32.6 years, 87% female, mean IPDE score 6.0, 95% suicide attempt Control group:	Post ED treatment, 5 day admission to general hospital for intensive individual psychotherap y program + family therapy and support	Clinical judgement of psychiatrist (TAU)	Summary: Intervention group had lower psychiatric hospitalisation (8%) and suicide attempts (8%) than controls (56% & 17%), and a higher suicide attempt day survival (85.6 days) and hospitalization survival (81.1	IPDE Hamilton Depression Scale Suicide attempts, rehospitalisati on rates, psychiatric hospitalisatio n rates and length of admission,	3 months	N/A	Lack of detailed description of intervention limits its comparability. Severity of BPD symptoms not measured, pharmacother apy not recorded.

Clinical Question 15 416

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
patients.			mean age 31.5			days) than	cost of care.			Short follow-
Psychiatry			years, 83%			controls (79.8 &				up period.
Research. 186(2-			female, mean			42.2), and fewer				
3), 287-292.			IPDE score			admission days				
			6.3, 100 %			than controls				
Switzerland			suicide			(mean 1.94 and				
			attempt			9.3).				
			86%			Cost of care was				
			concurrent			lower for the				
			major			intervention				
			depression			group.				
			both groups							
Bartak, A.,	Non-	207	Mean age:	Outpatient	Inpatient	Summary: All	Extensive	3 centres	(out, day,	Study well
Andrea, H.,	randomised	analysed	31.1yo (range	(up to 2	(individual	groups showed	clinical	conducte	in)	described and
Spreeuwenberg,	experimenta	960 enrolled	not stated)	sessions of	plus group	low drop out and	battery of	d follow-		conducted
M.D., Ziegler,	l trial – Level	in the study,	71% female	individual	program 5	improvement on	tests.	up at 12,	BSI55,	Allocation
U.M., Dekker, J.,	III-2	245 met	78.7%	psychotherap	days a	psychiatric	Reported	24, and	.97, 1.37	appears to be
Rossum, B.V.,		criteria, 13	unmarried	y a week).	week). Mean	symptoms,	outcomes	36		by clinician
Hamers, E.F.,		lost to	77.3%	Mean	duration 9.1	psychosocial	measured by	months	EQ-5D -	assessment
Scholte, W.,		follow-up	diagnosis BPD,	duration 14.5	months	functioning, and	BSI –GSI	after BL;	0.37, 0.72,	Intention to
Aerts, J.,		n=46	12.6 Histrionic	months		quality of life at	(Dutch	other 3	0.80	treat analysis
Busschbach, J.J.,		outpatient,	PD, 8.7% ASPD			18 months after	version)	at post, 6		stated but
Verheul, R.,		n=81 day	(59.4% had	Day hospital		baseline.	(psychiatric	and 12	OQ45	analysis does
Stijnen, T.,		hospital,	Cluster A	(at least 1		Patients in the	symptomatol	months	social role	not appear to
Emmelkamp,		n=80	and/or C PDs)	group per		inpatient	ogy),	after	- 0.64,	account for
P.M. (2010).		inpatient		week, plus		psychotherapy	Outcome	treatmen	0.77, 0.87	missing data
Effectiveness of				individual).		group showed the	Questionniar	t, and 36		

Clinical Question 15

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
outpatient, day				Mean		strongest (non-	e-45	months	OQ-45	6 treatment
hospital, and				duration 10.4		significant)	(psychosocial	after BL.	interperso	centres
inpatient				months		improvement,	functioning),	Analysis	nal – 0.30,	participated
psychotherapeuti						particularly in	EQ-5D (QoL)	18	0.60, 0.89	
c treatment for						psychiatric		months		
patients with						symptoms		after BL		
cluster B						Analysis adjusted				
personality						for initial patient				
disorders.						differences based				
Psychotherapy						on a multiple				
and						propensity score				
Psychosomatics,						calculated on a				
80(1), 28-38						range of social,				
						economic and				
Netherlands						diagnostic				
						variables				

Clinical Question 15

Clinical Question 16. What is the role of inpatient (e.g. acute, forensic) care in the management of people with BPD?

NICE Guideline summary

No studies were found that specifically related to acute forensic services. See page 320 NICE guidelines.

Updated search

Summary

One study examining post emergency admission to general hospital compared to treatment as usual was identified for this question. The results showed that the intervention group had better outcomes than the treatment as usual group.

Evidence table

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length	Effect	Comments
Country	Design/		Age					of	Size	
	Level of		Gender					follow-		
	Evidence		Diagnosis Other					up		
Berrino, A.,	Prospective	200	BPD +	Post ED	Clinical	Summary:	IPDE	3	N/A	Lack of
Ohlendorf, P.,	cohort study		deliberate self-	treatment, 5	judgement of	Intervention	Hamilton	months		detailed
Duriaux, S.,	– Level III-2	n=100 crisis	harm.	day admission	psychiatrist	group had	Depression Scale			description of
Burnand, Y.,		intervention	Intervention	to general	(TAU)	lower	Suicide attempts,			intervention
Lorillard, S.,		(CI),	group: mean	hospital for		psychiatric	rehospitalisation			limits its
Andreoli, A. (2011).			age 32.6 years,	intensive		hospitalisation	rates, psychiatric			comparability.
Crisis intervention		n=100 TAU	87% female,	individual		(8%) and	hospitalisation			Severity of
at the general			mean IPDE	psychotherapy		suicide	rates and length			BPD
hospital: An			score 6.0, 95%	program +		attempts (8%)	of admission, cost			symptoms not
appropriate			suicide attempt	family therapy		than controls	of care.			measured,
treatment choice				and support		(56% & 17%),				pharmacother
for acutely suicidal			Control group:			and a higher				apy not
borderline			mean age 31.5			suicide				recorded.
patients. Psychiatry			years, 83%			attempt day				Short follow-
Research. 186(2-3),			female, mean			survival (85.6				up period.
287-292.			IPDE score 6.3,			days) and				
			100 % suicide			hospitalization				

Clinical Question 16 419

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Switzerland			attempt			survival (81.1 days) than				
			86% concurrent major depression both			controls (79.8 & 42.2), and fewer				
			groups			admission days than controls				
						(mean 1.94 & 9.3).				
						Cost of care was lower for				
						the intervention group.				

Clinical Question 16 420

Clinical Question 17. What is the role of specialist services (including community-based) in the medium and long term management of people with BPD?

NICE Guideline summary

No studies were found that specifically related to this question. See NICE care pathways consensus page 324.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 17 421

Clinical Question 18. Is long-term inpatient care in the treatment of BPD effective?

NICE Guideline summary

Three studies were found that related to inpatient treatment but all evaluated the same inpatient program (and seem to involve the same patients) and none of the studies compared these inpatients to a comparison group so they did not meet our current criteria. See page 320-322 NICE guidelines.

Updated search

Summary

One study examining outpatient, day hospital and inpatient treatment was identified for this question. There were no differences between groups.

Evidence table

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
Bartak, A., Andrea, H., Spreeuwenberg, M.D., Ziegler, U.M., Dekker, J., Rossum, B.V., Hamers, E.F., Scholte, W.,	Non randomised experimenta I trial – Level III-2	207 analysed 960 enrolled in the study, 245 met criteria, 13	Mean age: 31.1yo (range no stated) 71% female, 78.7% unmarried,	Outpatient (up to 2 sessions of individual psychotherapy a week). Mean duration 14.5 months	NA	summary: All groups showed low drop out and improvement on psychiatric symptoms, psychosocial	Extensive clinical battery of tests. Reported outcomes measured by BSI –GSI (Dutch	3 centres conducte d follow- up at 12, 24, and 36 months after BL;	(out, day, in) BSI55, .97, 1.37 EQ-5D - 0.37,	Study well described and conducted Allocation appears to be by
Aerts, J., Busschbach, J.J., Verheul, R., Stijnen, T., Emmelkamp, P.M. (2010). Effectiveness of outpatient, day hospital, and inpatient		lost to follow-up n=46 outpatient, n=81 day hospital, n=80 inpatient	77.,3% diagnosis BPD, 12.6% Histrionic PD, 8.7% ASPD (59.4% had Cluster A and/or C PDs)	Day hospital (at least 1 group per week, plus individual). Mean duration 10.4 months		functioning, and quality of life at 18 months after baseline. Patients in the inpatient psychotherapy group showed	version) (psychiatric symptomatolo gy), Outcome Questionniare -45 (psychosocial functioning), EQ-5D (QoL)	other 3 at post, 6 and 12 months after treatmen t, and 36 months after BL.	0.72, 0.80 OQ45 social role – 0.64, 0.77, 0.87 OQ-45	clinician assessment Intention to treat analysis stated but analysis does not appear to account for missing

Clinical Question 18 422

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow- up	Effect Size	Comments
psychotherapeutic treatment for patients with cluster B personality disorders. Psychotherapy and Psychosomatics, 80(1), 28-38 Netherlands			Other	(individual plus group program 5 days a week). Mean duration 9.1 months		the strongest (non- significant) improvement, particularly in psychiatric symptoms Analysis adjusted for initial patient differences based on a multiple propensity score calculated on a range of social, economic and diagnostic variables		Analysis 18 months after BL	interpers onal – 0.30, 0.60, 0.89	data 6 treatment centres participated

Clinical Question 18 423

Clinical Question 19. Are particular therapies suited for particular service settings?

NICE Guideline summary

No studies were found that specifically related to this question. See NICE care pathways consensus page 324.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 19 424

Clinical Question 20. How should healthcare professionals from other healthcare settings care for people with BPD? (primary care, accident and emergency, crisis services, crisis houses, acute care)

NICE Guideline summary

No studies were found that specifically related to this question. See NICE care pathways consensus page 324.

Updated search⁹

This question was addressed in conjunction with the interventions questions and not re-examined as a stand-alone question.

Clinical Question 20 425

⁹ Clarification of settings

Clinical Question 21. Which treatment pathways, care processes and clinical principles (case management, care coordination, care program approach and so on) maximise the effectiveness of care and reduce harm?

NICE Guideline summary

No studies were found that specifically related to this question. See NICE care pathways consensus page 324 and recommendations in Chapter 5 on psychological interventions.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 21 426

Clinical Question 22. How can healthcare professionals involved in the care of people with BPD best be supported? (supervision, training, case loads and so on)

NICE Guideline summary

No studies were found that specifically related to this question. See NICE care pathways consensus page 324 and recommendations in Chapter 5 of the NICE guideline on psychological interventions.

Updated search

Summary

Two studies were identified that showed training improves attitudes and skills of practitioners responding to people with BPD

Evidence table

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Dimeff, L.A.,	RCT -	132	Participants	Linehan's skills	Placebo e-	Summary:	Primary	Assessments	Not	Study well
Woodcock,	Level II	n=43 in DBT	mental health	training manual	learning	Active DBT	measures:	were	reported	described and
E.A., Harned,		manual	providers, drug	e-learning	course	training	DBT Distress	completed		conducted
M.S., Beadnell,			treatment	module of		conditions	Tolerance	at baseline,		All measures
B. (2011). Can		n=47 in e-	providers, or	Linehan's		outperformed	skills, self-	post-		developed for
dialectical		DBT	students in	material		control on all	efficacy,	training, and		the study
behavior			training programs			outcomes	motivation to	2, 7, 11, and		
therapy be		n=42 in e-	to become			except	apply these	15 weeks		
learned in		control	treatment			motivation to	skills in	following		
highly			providers; were			learn and use	clinical	training.		
structured			currently treating			the treatment.	practice			
learning			at least one client							
environments?			with substance			Practitioners	Secondary			
Results from a			abuse problems			preferred e-	measures:			
randomized			and/or who was			learning	Satisfaction			
controlled			chronically				and skills			
dissemination			suicidal; and had			e-DBT	utilisation			

Clinical Question 22 427

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
trial. Behavior			limited exposure			significantly				
Therapy, 42(2),			to DBT			outperformed				
263-275.						the manual on				
						knowledge at				
USA						the 15-week				
						follow-up but				
						no other time				
						points				
						e-DBT highest				
						acceptability				
						and usability				
						and rate of				
						applying and				
						teaching the				
						newly learned				
						skills in clinical				
						practice.				
Treloar, A.J.	RCT -	140 at	40% male	CBT training –	No-training	Summary:	Attitudes	6 months	Not	RCT methods
(2009)	Level II	baseline		conceptualised	control	Significant	Towards		reported	not well
Effectiveness of			74% from mental	three cases		changes in	Deliberate			described,
Education		(n=41	health settings,	using a DBT		attitudes scores	Self-Harm			including
Programs in		control	26% emergency	approach self		immediately	Questionnaire			randomisation
Changing		group, n= 50	settings	harm as		after training	(ADSHQ) -			and blinding.
Clinicians'		CBT group,		modulating		for both	asked to			Partially
Attitudes		n=49 psycho	72% nurses, 17%	overwhelming		training groups	complete it			randomised
Toward		analytic	allied health, 11%	affective		Higher scores at	thinking			control group
Treating		group)	medical	experiences		follow-up than	about			
Borderline				Psychoanalytic		pre for both	patients who			

Clinical Question 22 428

Ref,	Study	N (n)	Participants	Intervention	Comparison	Outcomes	Measure/s	Length of	Effect	Comments
Country	Design/		Age					follow-up	Size	
	Level of		Gender							
	Evidence		Diagnosis							
			Other							
Personality		65 at follow-	40% had >16 yrs	training- three		groups but only	had BPD and			
Disorder. Psych		up (n=22	clinical	cases using a		psychoanalytic	self-harmed			
iatric		control	experience	moral		group				
Services 60 (8),		group, n= 18		masochism -		significant				
1128-31		CBT group,	22% daily contact	self harm as		CBT group had				
		n=25 psycho	with BPD, 48%	discharge		higher scores				
Australia		analytic	weekly contact,	unconscious		than other two				
		group)	17% less frequent	sense of guilt		groups at				
						baseline,				
			49% had never			immediately				
			received training			post and follow-				
			on BPD			up.				

Clinical Question 22 429

Clinical Question 23. Do families (including children) and families/carers of people with BPD have specific care needs?

NICE Guideline summary

No systematic search was undertaken for this question based on the advice of the GDG. A narrative review is presented in the guidelines. A summary is presented here, but please note NICE did not undertake a systematic search. See page 93 NICE guidelines.

Hoffman et al, 2005 – no evidence that 44 participants (from 34 families) of people with BPD experience surplus stigma. Significant burden assessed by Burden Assessment Scale on Families.

Hoffman et al, 2007 – replicated the 2005 study with 55 participants.

Schiers & Bok, 2007 – administered SCL-90 to 64 individuals related and unrelated to BPD. Both had higher SCL-90 scores than the general population but did not differ from each other.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 23 430

Clinical Question 24. If so, what specific interventions should be offered?

NICE Guideline summary

No additional search was undertaken beyond the initial for this question based on the advice of the GDG. A narrative review is presented in the guidelines. As summary is presented here, but please note this was not a systematic search. See page 94 and 95 NICE guidelines.

- Dixon et al 2001 showed that families of people with Schizophrenia find psychoeducation and information most helpful.
- Hoffman et al, 2003 assessed 32 families for knowledge of BPD. Higher knowledge related to higher burden, depression, distress and hostility towards person with BPD.
- Hoffman et al 2005 impact of Family Connections program 12 week program influenced by DBT on 44 individuals (34 families). Assessment pre, post and 6 month follow-up showed reductions in grief and burden, and enhanced mastery, maintained at follow-up.
- Hoffman et al 2007b replicated the above with 3 month post assessment.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 24 431

Clinical Question 25. Do family or carers, through their behaviour, styles of relating and relationships, influence clinical and social outcomes or well-being for people with BPD?

NICE Guideline summary

No systematic search was undertaken for this question based on the advice of the GDG. A narrative review is presented in the guidelines. A summary is presented here, but please note NICE did not undertake a systematic search. See page 95 NICE guidelines.

Gunderson et al 2006 – present relationships predict outcomes at 2 years – NICE urges caution in interpretation based on measures used.

Hooley & Hoffman 1999 – followed a group of 35 people with BPD post discharge, assessed expressed emotion with eth Camberwell Family Interview and found no association between hostility and criticism and readmission rates and there were fewer admissions in families with higher expressed over-involvement.

Updated search

No further papers that met the inclusion criteria were identified in an updated search.

Clinical Question 25 432

Clinical Question 26. If so, what interventions should be offered?

NICE Guideline summary

There were no empirical studies to review in this section. See page 96 NICE guidelines.

Updated search (systematic)

No further papers that met the inclusion criteria were identified in an updated search

Clinical Question 26 433

Additional Question: Research on BPD related to Aboriginal and Torres Strait Islanders

NICE Guideline summary

NICE did not search for research specifically with Aboriginal and Torres Strait Islanders.

Updated search (systematic)

No papers were identified in a search related to Aboriginal and Torres Strait Islanders and BPD.

Additional Question: Cost-Effectiveness of BPD Treatments

NICE Guideline summary

- 1. **Individual therapies** (see page 141 NICE guidelines): The systematic search of economic literature identified three studies that assessed the cost effectiveness of individual psychological interventions for borderline personality disorder. One study examined the cost effectiveness of CBT (Palmer et al., 2006). The results of this analysis indicate that CBT is unlikely to be a cost-effective option for people with borderline personality disorder. Another compared the cost effectiveness of schema-focused cognitive therapy and transference-focused psychotherapy (Van Asselt et al., 2008). Overall, schema-focused cognitive therapy was less costly than transference focused psychotherapy over the 4 years of the analysis. The third study assessed costs incurred by people with borderline personality disorder before starting and after completing psychodynamic interpersonal therapy (Hall et al., 2001). Provision of psychodynamic interpersonal therapy to people with borderline personality disorder resulted in a net cost saving of AUS\$18,217 per person treated; when the intervention cost was raised to \$13,070 per person to reflect therapy provided by specialist psychiatrists, the intervention was cost saving only in the group of high users of healthcare resources.
- 2. Combined treatments (see page 150 NICE guidelines): NICE found no health economics studies on studies of combined psychological and pharmacological interventions.
- 3. **Psychotherapy programs** (see page 172 NICE guidelines): The systematic search of economic literature identified two studies assessing the cost effectiveness of psychological therapy programmes for borderline personality disorder. The analyses by Brazier and colleagues (2006) are characterised by a number of methodological limitations and the studies upon which the analyses were based were of small sample and not well reported; the authors they suggested that DBT could be a potentially cost-effective intervention in people with borderline personality disorder. Bateman & Fonagy (2003) assessed the total costs of MBT with partial hospitalisation compared with treatment as usual. The findings indicated that MBT might be potentially a cost-effective option in the management of borderline personality disorder. However, economic evidence is very limited, based on data from one small RCT only, and characterised by great uncertainty as the results of probabilistic analysis indicate.

Additional Questions 434

- 4. **Therapeutic communities** (see page 186 NICE guidelines): The systematic search of the literature identified two economic studies on therapeutic communities. Both studies were conducted in the UK. One study had a before-after design and examined costs associated with treatment of people with personality disorders at the Henderson Hospital (Dolan et al., 1996). Based on the study results, the authors suggested that if the reduction in psychiatric care usage was maintained in the years following treatment, then the cost of treatment at Henderson Hospital would be recovered in just over 2 years following discharge. However, they admitted that usage levels of psychiatric care in this population over time were unknown and further research was required to confirm the potential benefits of treatment at the Henderson in terms of expected future cost offsets. The other study was a cohort study examining two programmes for people with personality disorders at the Cassel Hospital (Beecham et al., 2006). The results of the study indicated that both programmes provided at the Cassel were potentially more effective and more costly than general psychiatric care. The two-stage programme seemed to be more effective than the one-stage programme at a similar cost. However, the study is characterised by a number of limitations, such as the small study samples and the differential attrition between groups over the follow-up period, which may have introduced bias, as acknowledged by the authors of the study.
- 5. **Pharmacological studies** (see page 296 NICE guidelines): No evidence on the cost effectiveness of pharmacological and other physical treatments for people with borderline personality disorder was identified.

Updated search

Summary

There were 2 studies that included cost effectiveness data in addition to those identified by NICE. They were of varying quality and caution is required in interpretation. One study (Pasieczny) found that DBT was more clinically and cost effective than TAU, although this study was a questionable quality and not well reported. The other study (Thunnissen) looked at aftercare options and found that the use of booster sessions was less costly and more effective than reintegration training so no cost effective analysis was undertaken. The results suggest that use of booster sessions as aftercare would be more cost effective than reintegration training. Overall, taking into consideration the NICE findings and the updated search, it is difficult to make any firm conclusions about cost effectiveness of treatments for BPD and further research in this area is required.

Additional Questions 435

Evidence tables

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
Pasieczny, N.,	Level 2	N=91	Age range	The treatment	The control	Summary: DBT	Costs benefit	6 months	Not	The study is
& Connor, J.			from 18 to	group	group received	program was	analysis of		reported	limited by
(2011). The	RCT	Female	58 years	received	TAU (clinical	more clinically	DBT vs. TAU	Self-report		the lack of
effectiveness		n=84	(mean =	outpatient	case	effective and	over 6 months	measures were		randomisatio
of dialectical		Male n=6	33.58, SD =	DBT as	management).	cost effective	of treatment.	introduced after		n of patients
behaviour			10.10).	described in		than TAU.		the initial 45		to treatment
therapy in		Mental		Cognitive			Clinical service	patients were		conditions.
routine public		health	At least one	Behavioural		Detail:	measures (n =	recruited to the		The use of
mental health		patients	DSM Axis I	Therapy of		Comparing the	90)	study in an		naturalistic
settings: An		who met	co-morbid	Borderline		average costs of		attempt to		wait list
Australian		DSM-IV-TR	diagnosis,	Personality		providing	The frequency	broaden the		controls
controlled		criteria for	most	Disorder and		outpatient and	of suicide	range of clinical		increases
trial.		BPD.	commonly	Training		inpatient	attempts.	domains being		ecological
Behaviour			substance	Manual for		treatment to a		examined.		validity, but
Research and			use	Treating		patient with	The number			results in
Therapy,			disorders	Borderline		BPD in DBT to	of emergency	These self-		reductions to
49(1), 4-10.			(51%),	Personality		the outpatient	department	report		internal
			depressive	Disorder.		and inpatient	(ED)	measures,		validity.
Australia			disorders			cost of	presentations,	completed by		
			(77%),	DBT initially		providing TAU	inpatient	45 patients		A second
			Bipolar	took place		to a patient	admissions,	(50% of the		limitation is
			Affective	over six		with BPD the	and inpatient	total sample),		that clinical
			Disorder	months and		service saved an	days for each	were		self-report
			(6%), Post	consisted of		average of	participant.	administered at		measures
			Traumatic	weekly		\$5,927 per		treatment		were
			Stress	individual		patient	Behavioural	commencement		included to
			Disorder	psychotherap		receiving DBT.	and service	and at 6 and 12		the study
			(23%), other	y (1 h), weekly		In total across	utilisation	months of		protocol

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
			Anxiety	group skills		the 40 patients	measures	treatment.		during
			Disorders	training (2 h),		receiving DBT	were also			recruitment.
			(50%), and	access to		the public	collected.			This resulted
			Schizophreni	phone		mental health				in a 50%
			a (4%).	coaching		service saved	Self-report			subsample
				between		approximately	measures (n =			providing
				sessions, and		\$237,080 over	45)			data on
				therapist		the three years	Beck			these
				attendance at		of the program.	Depression			measures.
				a weekly DBT		Assuming	Inventory II			
				consultation		patients would				QC
				meeting (1.5		otherwise	Beck Scale for			1.1=A
				h).		receive TAU	Suicide			1.2=F
						after the initial	Ideation			1.3=F
						6 months of				1.4=F
						DBT, the	State Trait			1.5=A
						average cost of	Anxiety			1.6=A
						providing a	Inventory			1.7=A
						patient with an				1.8=93% and
						additional 6	Brief			87%
						months of DBT	Symptom			1.9= A
						(\$10,769) may	Inventory			1.10=F
						be more				2.1 = (-)
						expensive than				
						providing the				
						same patient				
						with TAU				
						(\$7,014) post				
						DBT.				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						This is due to				
						the lack of				
						additional				
						significant				
						reductions in				
						psychiatric bed				
						days seen in the				
						patients				
						continuing in				
						DBT and does				
						not take into				
						consideration				
						the potential				
						differences in				
						case closure				
						rates between				
						patients				
						receiving				
						additional DBT				
						and those				
						receiving TAU				
						post six months				
						of DBT.				
						There was no				
						significant				
						difference in				
						the percentage				
						of patients				
						retained in				

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
						treatment				
						across the 2				
						groups; 93% of				
						the DBT group				
						and 87% of the				
						control group				
						participants				
						completed 6				
						months of				
						treatment.				
Thunnissen,	Level 2	N=160	The study	Primary	Reintegration	Summary: Use	Symptom	The aftercare		There was no
M.,			group	Treatment: All	training	of booster	Check List	started 3 or 4		comparison-
Duivenvoorde	RCT	90.6% of	consisted of	patients	program VS	sessions was	Global	1/2; months		group that
n, H.,		the	44 (34.4%)	participated in	booster	less costly and	Severity Index	after the		received no
Busschbach,	At the end	patients	men and 84	a three-month	sessions.	more effective	SCL-90 is good	primary		aftercare.
J., van Roijen,	of the	were	(65.6%)	inpatient		than		treatment.		Compliance
L. H., van	primary	diagnosed	women.	psychotherap	Aftercare as	reintegration	Health and			in the
Tilburg, W.,	treatment	with at		y program.	Usual: Booster	training so no	Labour	Measurement		reintegration
Verheul, R.,	patients	least one	The average		Sessions. The	cost effective	Questionnaire	took place at		training
Trijsburg, W.	were	Axis-I	age was 35.6	Reintegration	usual aftercare	analysis was		the start		program was
(2008). A	randomized	disorder;	years (SD =	Training: The	consisted of two	undertaken. The	Employment	(baseline) of the		significantly
randomized	to either the	97.7%	8.1, range	reintegration	one-day (2 × 8	results suggest	was defined	primary		lower than in
clinical trial	reintegratio	were	20–53	training	hour) booster	that use of	as having a	treatment, at		the booster
on the	n training	diagnosed	years).	program	sessions, three	booster	paid job,	the start of		treatment.
effectiveness	program or	with at		consisted of	and nine	sessions as	irrespective of	aftercare (6		
of a	booster	least one		six manual-	months after	aftercare would	the number of	months after		QC
reintegration	sessions.	Axis-II		guided	discharge, with	be more cost	hours.	the start of		1.1=A
training		disorder,		training	the same	effective than		primary		1.2=A
program	20 groups of	mainly		sessions of	therapists as	reintegration	Absence from	treatment) and		1.3=E

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
versus	2 × 4	Cluster C,		three hours	during primary	training.	work during	at the end of		1.4=E
booster	patients: 10	B, and		each,	treatment (two		the two weeks	aftercare (12		1.5=B
sessions after	groups for	NOS.		delivered on a	sociotherapists	Detail: On	preceding the	months), and at		1.6=A
short-term	reintegratio			monthly basis	one art—or	average, 64.6%	interview was	follow-up (24		1.7=A
inpatient	n training	93% had		between the	psychomotor	of patients	measured in	months).		1.8=E
psychotherap	and 10	undergone		third and the	therapist, and a	attended the 6	half-days; any			1.9= A
y. Journal of	groups for	psychother		ninth month	psychiatrist or a	half-day	absence of a			1.10=A
Personality	booster	apeutic		after	psychotherapist	sessions in the	half day or	Of the original		2.1 = (+)
Disorders,	sessions.	treatments		discharge.).	reintegration	more was	160 patients, 32		
22(5), 483-		during the		Training		training	taken as	did not		
495.		two years		aimed at		program. Apart	absent.	participate: 7		
		preceding		problem		from the extra	Work	patients refused		
		admission		solving and		costs for	impediments	to cooperate,		
		to the		was given by		developing the	(e.g., having	and 25 patients		
		inpatient		trainers who		reintegration	problems in	dropped out of		
		treatment,		were new to		training	concentrating	the inpatient		
		mostly as		the patients.		program and a	or in making	program.		
		outpatient				feasibility study	decisions,			
		s; 9.4%				in a group of ex-	working more	Comparison		
		had been				patients, the	slowly, having	between the 25		
		admitted				reintegration	to isolate	dropouts and		
		to a				training was 1.6	oneself,	the 128 patients		
		mental				times more	postponing	included in the		
		hospital				expensive	work, having	study group		
		and 3.9%				(1.891 Euro)	others do	showed that the		
		had				than the	one's own	percentage of		
		received				booster	work) were	males was		
		day-				sessions (1.198	rated as	higher in the		
		treatment.				Euro).	follows, 0 = no	dropout group		

Ref, Country	Study Design/ Level of Evidence	N (n)	Participants Age Gender Diagnosis Other	Intervention	Comparison	Outcomes	Measure/s	Length of follow-up	Effect Size	Comments
		71.1%				As the	impediments,	(66.7%) than in		
		patients				difference in	1 = some	study patients		
		were				outcome also	impediments,	(34.4%; χ2 =		
		employed;				favoured the	2 = serious	9.86; p < 0.01).		
		50% were				booster	impediments.	Dropouts were		
		living				sessions, a cost-		significantly		
		alone and				effectiveness	A cost-	older (40.3		
		19.5% had				analysis	effectiveness	years ±9.6) than		
		children.				appeared	analysis was	study patients		
						redundant.	planned in	(35.6 years ±8.1;		
							case the	t = 2.6; df = 151;		
							treatment	p < 0.01).		
							options			
							differed in			
							terms of			
							production			
							losses and			
							impediments			
							at work.			
							Personality			
							disorders			
							were			
							measured			
							using the			
							Structured			
							Interview for			
							DSM-IV			
							Personality			
							Disorders.			

Forest Plots related to Q6, Q7 and Q9

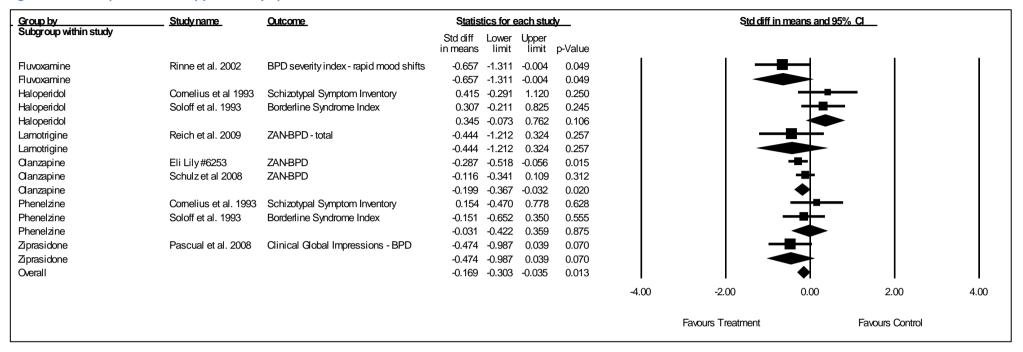
Figure 1: Effect of psychological treatments on BPD symptoms

Group by	Study name	Outcome	Statisti	ics for e	ach st	ıdy	Std diff in means and 95% CI	
Subgroup within study				ower U		p-Value		
DBT	Koons etal. 2001	No. of DSM-IV diagnostic criteria for BPD	-0.303 -	1.185	0.579	0.501		
DBT			-0.303 -	1.185	0.579	0.501		
DBT skills	Soler et al. 2009	Clinical Global Impression of Severity-BPD Global	-1.020 -	1.569 -	-0.471	0.000	-	
DBT skills			-1.020 -	1.569 -	-0.471	0.000		
DDP	Gregory et al. 2010	Borderline Evaluation of Severity Over Time	-0.445 -	1.358	0.468	0.339		
DDP			-0.445 -	1.358	0.468	0.339		
SFT	Farrell et al. 2009	Borderline Syndrome Index	-1.710 -	2.591 -	-0.829	0.000		
SFT			-1.710 -	2.591 -	-0.829	0.000		
STEPPS	Blum et al. 2008	Zanarini Rating Scale for BPD	-0.457 -	0.814 -	-0.100	0.012	-	
STEPPS	Bos etal. 2010	Borderline Personality Disorder checklist-40	-0.560 -	1.115 -	-0.005	0.048		
STEPPS			-0.487 -	0.787 -	-0.187	0.001		
TFP	Doering et al. 2010	No. of DSM-IV diagnostic criteria for BPD	-0.560 -	0.952 -	-0.168	0.005	<u>-</u> -	
TFP			-0.560 -	0.952 -	-0.168	0.005		
Overall			-0.630 -	0.831 -	-0.429	0.000	•	
							-4.00 -2.00 0.00 2.00	4.00
							Favours Treatment Favours Control	

DSM: Diagnostic and statistical manual of mental disorders; DDP: dynamic deconstructive psychotherapy; DBT: dialectical behaviour therapy; SFT: schema-focused therapy; Std diff: standard difference; STEPPS: systems training for emotional predictability and problem solving; TFP: transference-focused psychotherapy.

Forest plot for meta-analysis of controlled psychological intervention studies that included BPD symptomatology as an outcome measure. 1-7

Figure 2: Effect of pharmacotherapy on BPD symptoms



Std diff: standard difference; ZAN-BPD: Zanarini Rating Scale for Borderline Personality Disorder.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included BPD symptoms as an outcome measure. 8-14

Figure 3: Effect of psychological treatments on general psychopathology

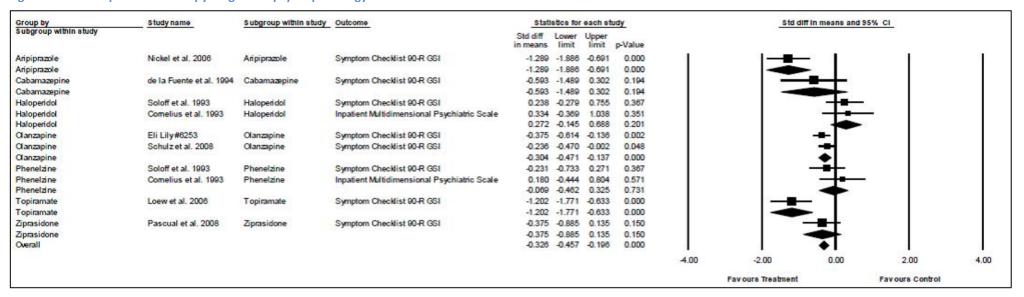
Group by	Study name	<u>Outcome</u>	Statis:	tics for e	ach stuc	<u>y</u>		S <u>td d</u>	ff in means and 95	% Cl	
Subgroup within study			Std diff in means	Lower limit	Upper limit	p-Value					
CBT	Davidson et al. 2006	Brief Symptom Inventory - GSI	-0.033	-0.427	0.362	0.871			-		1
CBT			-0.033	-0.427	0.362	0.871					
DBT	Bohus et al. 2004	Symptom Checklist 90-R GSI	-1.046	-1.655	-0.438	0.001		-			
DBT	Carter et al. 2010	WHOQOL-BREF Psychological domain*	-0.650	-1.226	-0.074	0.027		-			
DBT			-0.838	-1.256	-0.419	0.000		-			
DBT skills	Soler et al. 2009	Symptom Checklist 90-R - GSI	-0.420	-0.930	0.090	0.106			──		
DBT skills			-0.420	-0.930	0.090	0.106					
MBT	Bateman et al. 2009	Symptom Checklist 90-R GSI	-0.670	-1.009	-0.331	0.000			 ■-		
VBT	Bateman et al. 1999	Symptom Checklist 90-R GSI	-0.394	-1.036	0.249	0.230					
MBT			-0.610	-0.910	-0.310	0.000					
MOTR	Kramer et al. 2011	Outcome Questionnaire-45	0.517	-0.285	1.320	0.206					
MOTR			0.517	-0.285	1.320	0.206					
SFT	Farrell et al. 2009	Symptom Checklist 90-R GSI	-1.092	-1.897	-0.287	0.008		 			
SFT			-1.092	-1.897	-0.287	0.008					
STEPPS	Blum et al. 2008	Symptom Checklist 90-R GSI	-0.305	-0.659	0.050	0.092					
STEPPS	Bos et al. 2010	Symptom Checklist 90-R GSI	-0.611	-1.173	-0.049	0.033		•			
STEPPS			-0.392	-0.692	-0.092	0.010					
TFP	Doering et al. 2010	Brief Symptom Inventory - GSI	0.080	-0.305	0.465	0.683					
TFP			0.080	-0.305	0.465	0.683			*		
Overall			-0.376	-0.520	-0.232	0.000			◆		
							-4.00	-2.00	0.00	2.00	4.00
								Favours Treatment		Favours Control	

^{*}Note: The effect size for WHOQOL-BREF psychological domain has been reversed to indicate that the effect favoured treatment (i.e. falls to left of zero axis, in line with other psychological function outcome measures). Raw means for WHOQOL-BREF psychological domain were increased in the treatment group.

CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; GSI: global severity index; MBT: mentalisation-based therapy; MOTR: motive-oriented therapeutic relationship; SFT: schema-focused therapy; Std diff: standard difference; STEPPS: systems training for emotional predictability and problem solving; TFP: transference-focused psychotherapy; WHOQOL: WHOQOL-Bref (the World Health Organization quality-of-life assessment instrument).

Forest plot for meta-analysis of controlled psychological intervention studies that included general psychopathology as an outcome measure.^{2, 4-7, 15-19, 32}

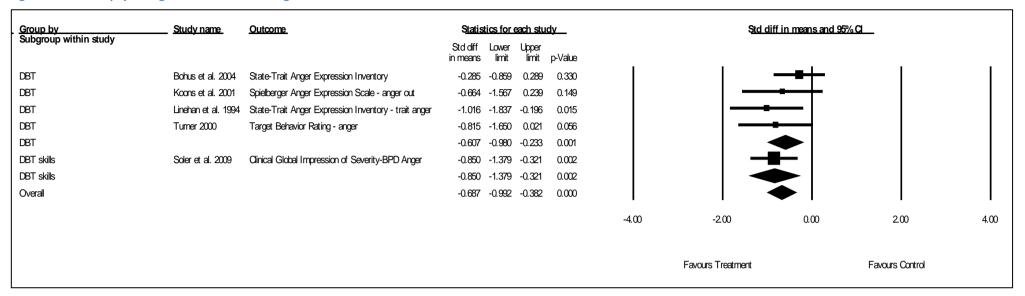
Figure 4: Effect of pharmacotherapy on general psychopathology



GSI: global severity index; Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included general psychopathology as an outcome measure. 9, 11-14, 20-22

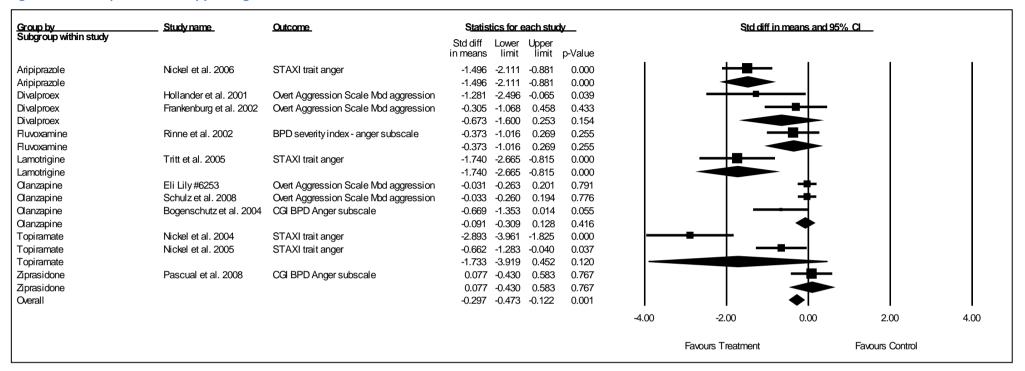
Figure 5: Effect of psychological treatments on anger



Std diff: standard difference; DBT: dialectical behaviour therapy.

Forest plot for meta-analysis of controlled psychological intervention studies that included anger as an outcome measure. 1, 2, 19, 24, 34

Figure 6: Effect of pharmacotherapy on anger



CGI BPD: Clinical Global Impression-BPD scale; Std diff: standard difference; STAXI: State-Trait Anger Expression Inventory.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included anger as an outcome measure.^{8, 11-13, 20, 25-30}

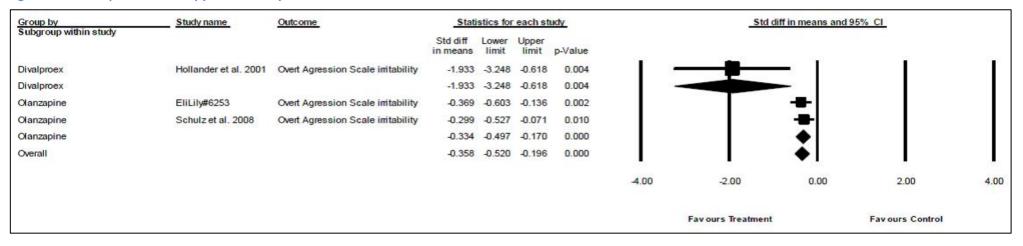
Figure 7: Effect of pharmacotherapy on hostility

Group by	Study name	Outcome	S <u>tatis</u>	tics for e	ach stud	y		Std diff	in means and 9	5% CI	
Subgroup within study			Std diff in means	Lower limit	Upper limit	p-Value					
Aripiprazole	Nickel et al. 2006	SCL-90 hostility subscale	-1.162	-1.749	-0.574	0.000			-		
Aripiprazole			-1.162	-1.749	-0.574	0.000			>		
Cabamazepine	de la Fuente et al. 1994	SCL-90 hostility subscale	-0.356	-1.239	0.528	0.430		_			
Cabamazepine			-0.356	-1.239	0.528	0.430		-			
Divalproex	Frankenburg et al. 2002	SCL-90 hostility subscale	-0.149	-0.909	0.611	0.700					
Divalproex			-0.149	-0.909	0.611	0.700		-		-	
Haloperidol	Soloff et al. 1993	SCL-90 hostility subscale	-0.303	-0.821	0.215	0.251					
Haloperidol	Comelius et al. 1993	Buss-Durkee Hosility Inventory	-0.170	-0.870	0.529	0.633					
Haloperidol			-0.256	-0.673	0.160	0.228					
Clanzapine	Schulz et al. 2008	SCL-90 hostility subscale	-0.259	-0.482	-0.037	0.022					
Clanzapine			-0.259	-0.482	-0.037	0.022			•		
Phenelzine	Soloff et al. 1993	SCL-90 hostility subscale	-0.342	-0.846	0.162	0.183			─ ■		
Phenelzine	Comelius et al. 1993	Buss-Durkee Hosility Inventory	-0.569	-1.204	0.066	0.079		_			
Phenelzine			-0.430	-0.825	-0.035	0.033					
Topiramate	Loew et al. 2006	SCL-90 hostility subscale	-3.141	-3.924	-2.358	0.000					
Topiramate		•	-3.141	-3.924	-2.358	0.000					
Ziprasidone	Pascual et al. 2008	Buss-Durke Inventory	-0.330	-0.839	0.180	0.205			─ ■		
Ziprasidone		-	-0.330	-0.839	0.180	0.205					
Overall			-0.455	-0.606	-0.304	0.000			•		
							-4.00	-2.00	0.00	2.00	4.00
								Favours Treatment		Favours Control	

SCL-90: Symptom Checklist-90; Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included hostility as an outcome measure. 9, 12-14, 20-22, 26

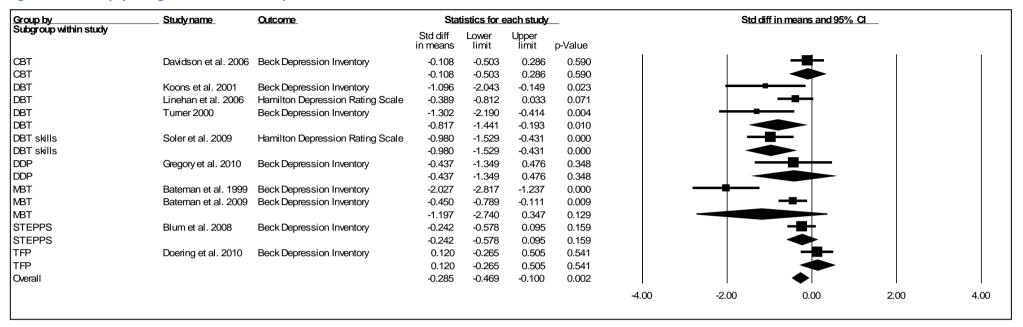
Figure 8: Effect of pharmacotherapy on irritability



Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included irritability as an outcome measure. 11, 12, 25

Figure 9: Effect of psychological treatments on depression



CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; DDP: dynamic deconstructive psychotherapy; MBT: mentalisation-based therapy; Std diff: standard difference; STEPPS: systems training for emotional predictability and problem solving; TFP: transference-focused psychotherapy.

Forest plot for meta-analysis of controlled psychological intervention studies that included depression as an outcome measure. 1-4, 6, 15, 17, 24, 32, 33

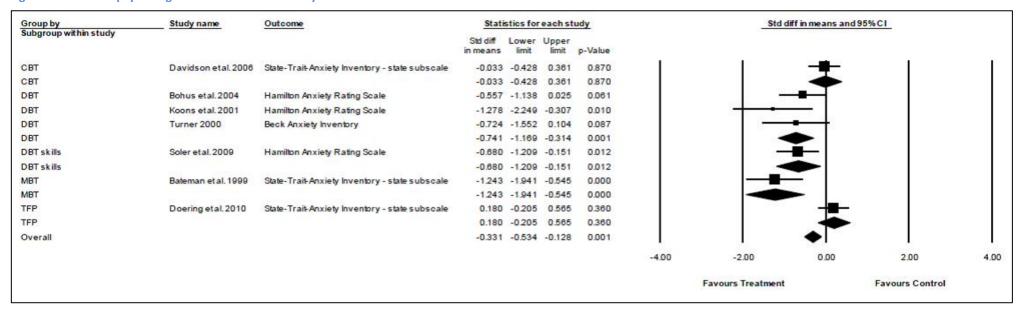
Figure 10: Effect of pharmacotherapy on depression

Group by	Study name	Outcome	S <u>tat</u>	istics for e	ach study	_	Std diff in means and 95% Cl
Subgroup within study			Std diff in means	Lower limit	Upper limit	p-Value	
Aripiprazole	Nickel et al. 2006	Hamilton Depression Rating Scale	-1.267	-1.862	-0.671	0.000	
Aripiprazole			-1.267	-1.862	-0.671	0.000	
Cabamazepine	de la Fuente et al. 1994	Hamilton Depression Rating Scale	-0.538	-1.430	0.354	0.237	<u> </u>
Cabamazepine			-0.538	-1.430	0.354	0.237	
Divalproex	Frankenburg et al. 2002	SCL-90 depression	-0.503	-1.272	0.267	0.201	■-
Divalproex	Hollander et al. 2001	Beck Depression Inventory	-1.127	-2.324	0.070	0.065	
Divalproex			-0.685	-1.333	-0.038	0.038	
Haloperidol	Comelius et al. 1993	Beck Depression Inventory	0.655	-0.062	1.371	0.073	
Haloperidol	Soloff et al. 1993	Beck Depression Inventory	0.302	-0.216	0.820	0.253	
Haloperidol			0.423	0.003	0.843	0.048	
Olanzapine	Bogenschutz et al. 2004	SCL-90 depression subscale	0.461	-0.221	1.144	0.185	
Olanzapine	Schulz et al. 2008	Montgomery-Asberg Depression Rating Scale	-0.020	-0.255	0.215	0.868	+
Olanzapine			0.110	-0.309	0.529	0.607	
Phenelzine	Comelius et al. 1993	Beck Depression Inventory	-0.152	-0.776	0.472	0.633	
Phenelzine	Soloff et al. 1993	Beck Depression Inventory	-0.343	-0.847	0.160	0.182	-■+
Phenelzine			-0.268	-0.660	0.124	0.180	
Topiramate	Loew et al. 2006	SCL-90 depression subscale	-0.517	-1.050	0.015	0.057	≣
Topiramate			-0.517	-1.050	0.015	0.057	
Ziprasidone	Pascual et al. 2008	Hamilton Depression Rating Scale	-0.316	-0.825	0.194	0.224	-≣+
Ziprasidone		-	-0.316	-0.825	0.194	0.224	
Overall			-0.241	-0.418	-0.063	0.008	•
							-4.00 -2.00 0.00 2.00 4.0

SCL-90: Symptom Checklist-90; Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included depression as an outcome measure. 9, 12-14, 20-22, 25, 26, 30

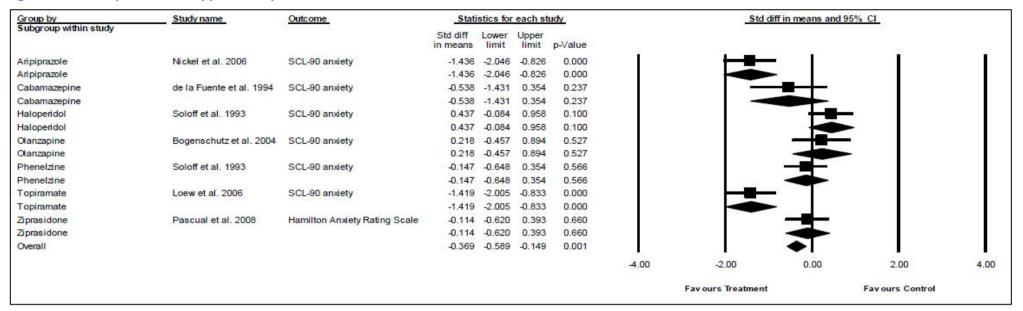
Figure 11: Effect of psychological treatments on anxiety



CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; MBT: mentalisation-based therapy; Std diff: standard difference; TFP: transference-focused psychotherapy.

Forest plot for meta-analysis of controlled psychological intervention studies that included anxiety as an outcome measure. 1, 2, 6, 15, 17, 19, 24

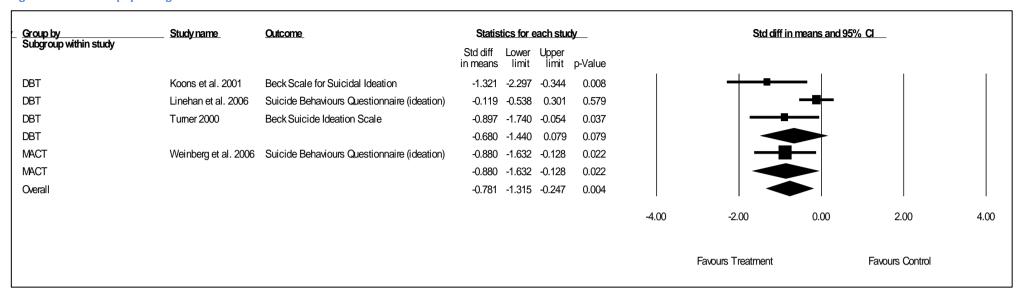
Figure 12: Effect of pharmacotherapy on anxiety



SCL-90-R: Symptom Checklist-90-Revised; Std diff: standard difference.

Forest plot for meta-analysis of controlled psychological intervention studies that included anxiety as an outcome measure. 9, 13, 20-22, 30

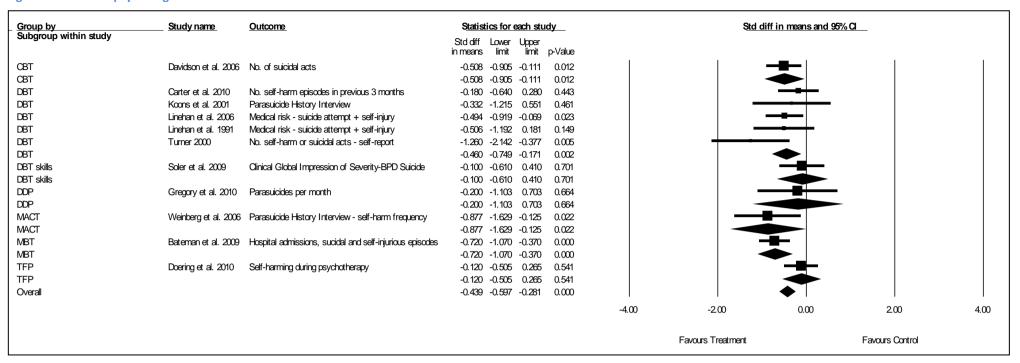
Figure 13: Effect of psychological treatments on suicidal ideation



DBT: dialectical behaviour therapy; MACT: manual-assisted cognitive therapy; Std diff: standard difference.

Forest plot for meta-analysis of controlled psychological intervention studies that included suicidal ideation as an outcome measure. 1, 24, 31, 33

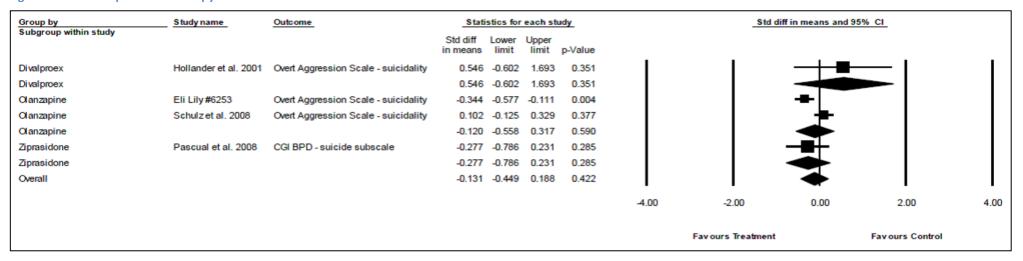
Figure 14: Effect of psychological treatments on suicide and self-harm



CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; DDP: dynamic deconstructive psychotherapy; MACT: manual-assisted cognitive therapy; MBT: mentalisation-based therapy; Std diff: standard difference; TFP: transference-focused psychotherapy.

Forest plot for meta-analysis of controlled psychological intervention studies that included suicide/self harm as outcome measure/s. 1-3, 6, 15, 16, 23, 24, 31-33

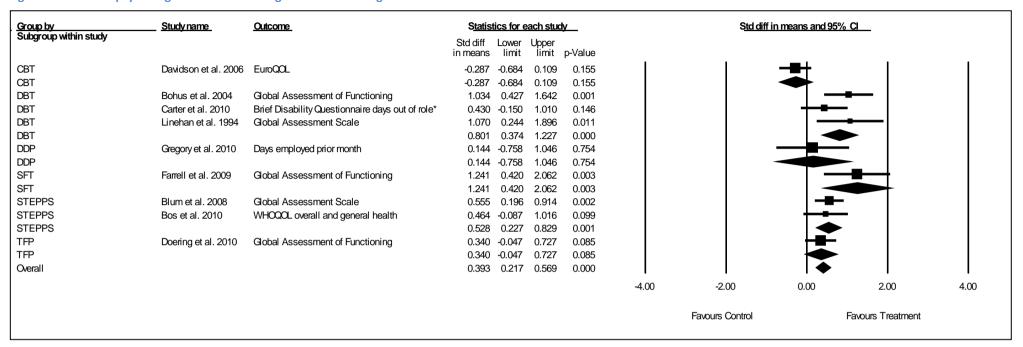
Figure 15: Effect of pharmacotherapy on suicide and self-harm



CGI BPD: Clinical Global Impression-BPD scale; Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included suicide and self harm as an outcome measure. 11-13, 25

Figure 16: Effect of psychological treatments on general functioning

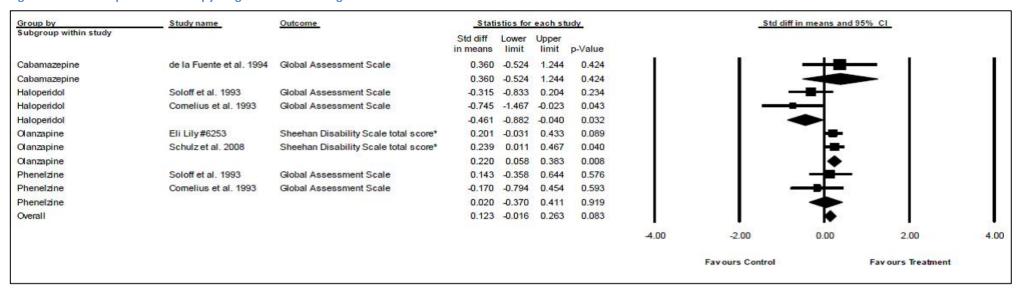


CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; DDP: dynamic deconstructive psychotherapy; EurQOL: EQ-5D (the EurQol Group quality-of-life assessment instrument); SFT: schema-focused therapy; Std diff: standard difference; STEPPS: systems training for emotional predictability and problem solving; TFP: transference-focused psychotherapy; WHOQOL: WHOQOL-Bref (the World Health Organization quality-of-life assessment instrument).

Forest plot for meta-analysis of controlled psychological intervention studies that included general functioning as an outcome measure. 3-7, 15, 16, 19, 34

^{*}Note: the effect size for Brief Disability Questionnaire was reversed for analysis

Figure 17: Effect of pharmacotherapy on general functioning

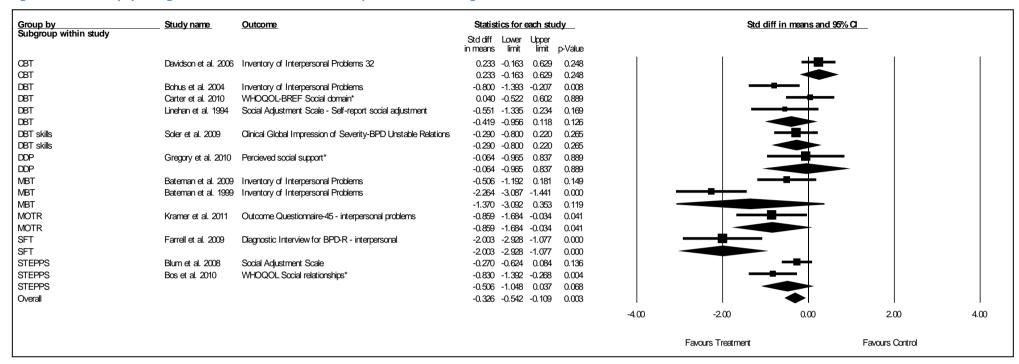


Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included general functioning as an outcome measure. 9, 11, 12, 14, 21

^{*}Note: the effect size for the Sheehan Disability Scale total score was reversed for analysis

Figure 18: Effect of psychological treatments on social and interpersonal functioning



CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; DDP: dynamic deconstructive psychotherapy; MBT: mentalisation-based therapy; MOTR: motive-oriented therapeutic relationship; SFT: schema-focused therapy; Std diff: standard difference; STEPPS: systems training for emotional predictability and problem solving; WHOQOL: WHOQOL-Bref (the World Health Organization quality-of-life assessment instrument)

Forest plot for meta-analysis of controlled psychological intervention studies that included interpersonal and social functioning as an outcome measure. 2-5, 7, 15-19, 32, 34

^{*}Note: the effect size for WHOQOL-Bref and Perceived social support was reversed for analysis.

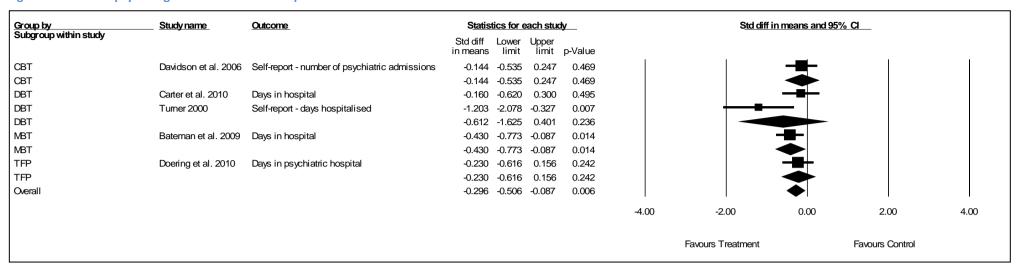
Figure 19: Effect of pharmacotherapy on social and interpersonal functioning

Group by	Study name	<u>Outcome</u>	S <u>tatis</u>	tics for e	ach stud	<u> </u>		Std diff in	n means and 9	<u>5% Cl</u>	
Subgroup within study			Std diff in means	Lower limit	Upper limit	p-Value					
Aripiprazole	Nickel et al. 2006	SCL-90-R insecurity in social contacts	-0.780	-1.344	-0.216	0.007		-	-		
Aripiprazole			-0.780	-1.344	-0.216	0.007					
Cabamazepine	de la Fuente et al. 1994	SCL-90 interpersonal relationships	-0.571	-1.465	0.323	0.211		— —			
Cabamazepine			-0.571	-1.465	0.323	0.211					
Divalproex	Frankenburg et al. 2002	SCL-90 interpersonal relationships	-1.067	-1.873	-0.262	0.009					
Divalproex			-1.067	-1.873	-0.262	0.009			-		
Olanzapine	Eli Lily#6253	Sheehan Disability Scale - Effect on social life	-0.142	-0.373	0.090	0.230			- ■		
Olanzapine	Bogenschutz et al. 2004	CGI BPD Interpersonal relationships subscale	-0.303	-0.972	0.365	0.374		-	 -		
Olanzapine			-0.159	-0.378	0.060	0.154					
Topiramate	Loew et al. 2006	SCL-90 insecurity in social contact	-0.919	-1.470	-0.368	0.001		- ■	-		
Topiramate			-0.919	-1.470	-0.368	0.001			▶		
Overall			-0.371	-0.553	-0.189	0.000			lack		
							-4.00	-2.00	0.00	2.00	4.00
								Favours Treatment		Favours Control	

CGI BPD: Clinical Global Impression-BPD scale; SCL-90: Symptom Checklist-90; SCL-90-R: Symptom Checklist-90-Revised; Std diff: standard difference.

Forest plot for meta-analysis of placebo-controlled pharmacotherapy studies that included social and interpersonal functioning as an outcome measure. 11, 20-22, 26, 30

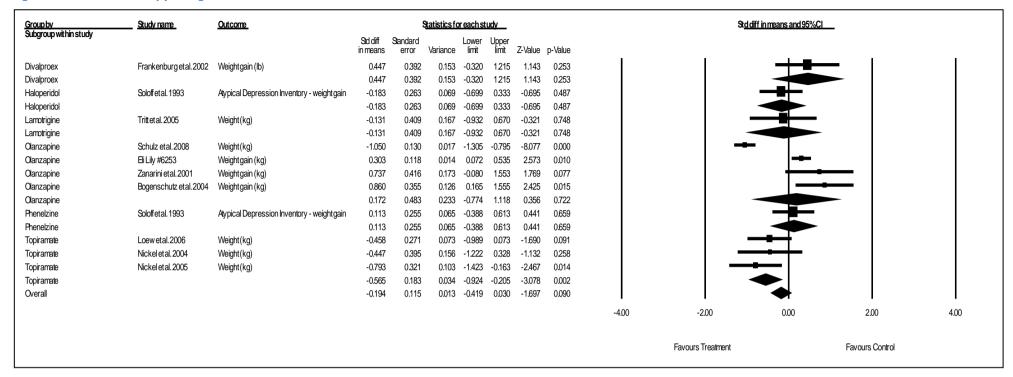
Figure 20: Effect of psychological treatments on hospitalisation



CBT: cognitive—behavioural therapy; DBT: dialectical behaviour therapy; MBT: mentalisation-based therapy; Std diff: standard difference; TFP: transference-focused psychotherapy.

Forest plot for meta-analysis of controlled psychological intervention studies that included hospitalisation as an outcome measure. 6, 15-16, 24, 32

Figure 21: Pharmacotherapy: Weight



Note: Favouring intervention doesn't necessarily mean weight loss, it could mean that the gain in weight was not as large as the control group

Forest plot for meta-analysis of controlled pharmocotherapy studies that included weight as an outcome measure. 9, 11, 12, 22, 26-30, 35

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