



Preterm births and omega-3

Worldwide, preterm birth (birth before 37 weeks) is the single largest cause of death in the newborn period and early childhood. A wide variety of health issues are associated with pre-term birth including developmental delay, cerebral palsy, hearing and visual impairments, learning difficulties and psychiatric disorders. NHMRC-funded researchers at the South Australian Health and Medical Research Institute (SAHMRI) and partner institutions have made major contributions to reducing the prevalence of premature births and improving the health of premature babies.



Origin

In 1981, the first National Nutrition Education Conference in Australia was held, following a recommendation by NHMRC.

Among other things, the conference recommended that those providing direct care to pregnant and lactating women should be given sufficient and scientifically up-to-date information to enable those women to make food choices to meet nutrient requirements of pregnancy and lactation.

Investment

Commencing in 1994, the work of Maria Makrides, Robert Gibson and colleagues at Flinders Medical Centre, the Women's and Children's Hospital, the University of Adelaide and SAHMRI, has been supported by successive NHMRC grants.

This work has also been supported by The Channel 7 Children's Research Foundation, The Women's and Children's Hospital Foundation, The Hospital Research Foundation Group, Thyne Reid Foundation and by national and international industry partners.

Research

The Adelaide based team - which over time included a multidisciplinary network of nutritionists, biochemists, psychologists, statisticians and clinicians (medical, midwifery, nursing, dietetics) - undertook a program of research to discover the differential effects of omega-3 fatty acids in infancy and pregnancy.

The team made a range of important discoveries including with respect to infant cognitive development, the feeding of premature babies, preventing premature births, and improvements to population testing for omega-3 levels.

Translation

The team's finding that omega-3 supplementation in pregnancy reduces prematurity was widely reported and reached millions of people worldwide. This finding was important for public health because pregnant women with low omega-3 levels could be prescribed readily available omega-3 supplements, which could increase the chances of their baby being born at full term.

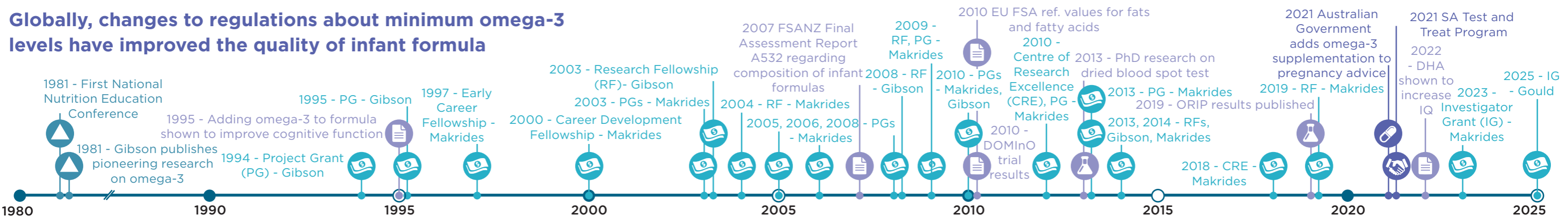
In 2021, the Australian Government added omega-3 fatty acid supplementation to its advice for pregnant women about lifestyle considerations during pregnancy.

Impact

With nationwide uptake in Australia, the new approach developed to identify pregnant women who are depleted in omega-3 and then supplementing them is expected to prevent ~1,000 babies from being born less than 34 weeks' gestation each year. This could save health and education systems over \$90 million annually and families from devastating long-term health issues.

Globally, changes to regulations about minimum omega-3 levels have improved the safety and quality of infant formula sold.

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