



Omega-3 fats in pregnancy and breastfeeding

Information in this leaflet is general in nature and should not take the place of advice from your health care provider. With every pregnancy there is a 3 to 5% risk of having a baby with a birth defect.

What are Omega-3 fatty acids?

Omega-3 fatty acids are polyunsaturated fatty acids that are important for a healthy diet and normal development. They are not produced in our bodies and must be obtained from the diet.¹ Fatty fish such as sardines, salmon and mackerel are the best dietary sources of omega-3 fats. There are other dietary sources of omega-3 but they contain smaller quantities.²

Omega-3 fats can also be obtained from oils and are available in supplement form. The most important components are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). Fish oil is a concentrated and often purified form of omega-3 fat derived from fish.² Oils derived from algae are a vegetable source of omega-3 fats and can be used by vegetarians.²

Issues for pregnancy

Omega-3 fatty acids are considered to have general health benefits and in particular may protect against heart disease, stroke and arthritis.³ Some pregnant women try to increase their omega-3 fat intake because several well publicised studies have found associations with omega-3 fat intake and increased intelligence in babies.⁴ However, a recent review of studies found no benefit of omega-3 supplementation in terms of IQ and development.⁵

Nonetheless, in a recent review of published studies it has been found that Omega -3 fats in pregnancy have been associated with reducing rates of prematurity and possibly low birth weight.⁵ Prematurity in particular increases the risks for death, disability and poorer long-term outcomes for babies. Therefore omega-3 supplements are likely to be beneficial in reducing these outcomes.

It is difficult to obtain enough omega-3 from dietary sources alone particularly in pregnancy. As a result, there are newly developed recommended intakes of omega-3 supplements, either from fish or algal sources.⁵ The recommended dosage of omega-3 fats is 1 g per day in total with a recommended dose of 500mg per day of DHA. There is no demonstrated benefit to a pregnant woman or her baby in taking higher doses and in fact, there may be some adverse effects of excessive amounts.² Supplementation is recommended from 12 weeks of pregnancy and may be stopped at birth.² Cod liver oil contains fish oil but because it also contains vitamin A, it should be avoided in pregnancy.

The reason it is difficult to obtain enough omega-3 from the diet is because fish are also a source of the toxin mercury. As such, there are specific recommendations regarding upper level of fish intake in pregnancy (and breastfeeding). This depends on the type of fish. In general, the limit is two to three fish meals (150mg serve) per week in pregnancy for most types of fish.



For further information, refer to Food Authority NSW at
<http://www.foodauthority.nsw.gov.au/foodsafetyandyou/life-events-and-food/pregnancy/mercury-and-fish>

Fish oil supplements are not a major source of mercury but it is important to check that the supplement you take is low in mercury and other contaminants.^{2,6}

Breastfeeding

If you are breast feeding, your baby will receive omega-3 fatty acids from you in your breast milk.⁷ The amount depends on your own intake of omega 3 fats from fish or other sources. Two to three serves per week of most fish are safe while breastfeeding.⁶ It is also safe to supplement your diet with omega-3 fats from fish oil or algal sources while breast feeding.²

Many infant formulas also contain omega 3 fatty acids and they have specifically been shown to be beneficial in babies born prematurely.⁷

References

1. World Health Organisation. Marine oil supplementation to improve pregnancy outcomes. April 2011. Available at https://www.who.int/elena/titles/bbc/fish_oil_pregnancy/en/ Accessed June 2019
2. South Australian Health and Medical Research Institute. Healthy Mothers, Babies and Children. Taking Omega-3's to give your baby a great start at life. Available at <https://www.sahmriresearch.org/our-research/themes/healthy-mothers-babies-children/research-list/omega3> Accessed June 2019
3. NHMRC Nutrient Reference Values- Macronutrient Balance -Fats-n-3 and n-6 fatty acids. Available at <https://www.nr+v.gov.au/chronic-disease/macronutrient-balance> Accessed June 2019
4. Helland IB, Smith L, Saarem K, Saugstad OD, Drevon CA. Maternal supplementation with very-long-chain n-3 fatty acids during pregnancy and lactation augments children's IQ at 4 years of age. *Pediatrics* 2003;111:39-44
5. Middleton P, Gomersall JC, Gould JF, Olsen SF, Makrides M. Omega-3 fatty acid addition during pregnancy. *Cochrane Database Syst Rev* 2018; 11.:CD003403
<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD003402.pub3/full> . Accessed June 2019
6. NSW Food Authority. Pregnancy- Mercury and fish; updated May 2018. Available from <http://www.foodauthority.nsw.gov.au/foodsafetyandyou/life-events-and-food/pregnancy/mercury-and-fish>
7. Makrides M. Outcomes for mothers and their babies: do n-3 long-chain polyunsaturated fatty acids and seafoods make a difference? *J Am Diet Assoc* 2008;108(10):1622-1626

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