



NAVIGATION

Iodine – are women getting enough?



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Like many nutrient deficiency diseases, iodine deficiency was generally thought to be a thing of the past in high-income, Western countries. And although the situation has improved considerably, iodine deficiency is still the most significant cause of preventable brain damage, not just in developing countries but also the Western world.^[1] Recent studies in Norway have found that certain population groups – particularly women of childbearing age – may have inadequate iodine intake, which could have serious implications for a growing foetus or infant. Australian studies also indicate that despite mandatory fortification and supplementation recommendations some women are not getting enough iodine, suggesting a lack of awareness of this important public health issue.

Why is iodine so important?

Iodine is vital for optimal growth and neurological development of a foetus during pregnancy and an infant during childhood. It is essential for the production of thyroid hormones, development of the central nervous system and maturation of the body. In women, [iodine deficiency can adversely impact fertility, as well as increase the risk of miscarriage or stillbirth.](#) Severe iodine deficiency can lead to hypothyroidism and goitre in the mother, and iodine deficiency disorders (IDDs) in the child. IDDs encompass a range of outcomes, the most severe being irreversible

mental impairment (cretinism),^[2] often accompanied by deafness. Evidence of the impact of milder forms of deficiency is limited; however, mild and moderate iodine deficiency has been shown to adversely impact foetal development and increase the risk of impaired cognitive function in infants.^[3]

Fortification has helped, but may not be enough

Dairy products have historically been a main iodine source in Australia; however, changes to sanitation processes in the dairy industry in the 1970s have made these foods a less reliable source. What's more, iodine levels in plant foods are generally low and depend on levels in the soil, but several areas in Australia are known to have iodine-deplete soil. In 2004, the Australian National Iodine Nutrition Survey uncovered mild iodine deficiency among Australian school children, prompting implementation of a national mandatory fortification program in 2009 requiring the replacement of non-iodised salt with iodised salt for making all breads except organic bread and bread mixes for making bread at home. Results from the 2011-12 National Health Measures Survey indicate that fortification has improved iodine intake in the population; however, this appears to vary by state.

The survey also found that one in five women of childbearing age were iodine deficient, and 62% were below the World Health Organization-recommended urinary iodine concentration level of 250µg/L for women who are pregnant, breastfeeding or planning pregnancy.

Similar findings have recently been reported in Norway, a country that until now was considered iodine replete and therefore has no mandatory fortification program. Two Norwegian studies found the majority of pregnant and breastfeeding participants had insufficient iodine intake and breast milk iodine concentration (BMIC) based on WHO-recommended levels. Women taking iodine supplements were more likely to meet the recommendations; however, only a small proportion of study participants reported supplement use. A lack of knowledge about iodine recommendations and food sources was also evident in over half the participants in one study. Both studies found that dairy foods, eggs and fish were the main contributors of dietary iodine, which is concerning as consumption of these foods has declined over the past decade in some groups.^{[3][4]} Comparative trends have emerged in Australia, where intake of primary iodine sources such as bread and dairy products has decreased among women of childbearing age when compared to the pre-fortification period.^[5]








Supplementation works, but education is key

Recognising that fortification wasn't enough to meet the iodine needs of pregnant and breastfeeding women, since 2010 the Australian National Health and Medical

Research Council has recommended iodine supplementation for this group.^[2]
^[6] However, a study assessing healthcare providers' knowledge found that although 71% of respondents were aware of the recommendation for iodine supplementation, only 38% were aware of the required dose and only 44% were aware of the required duration of supplementation.^[7] This is particularly concerning as BMIC has been shown to decrease during the first six months postpartum in iodine-deficient women, which can have consequences for infants that are exclusively breastfed in accordance with WHO recommendations.^[2]

Further, two recent studies conducted in Western Australia and New South Wales both found that only around half of breastfeeding participants were taking iodine supplements, which may suggest a lack of awareness of the recommendations, similar to the Norwegian studies.^{[2][6]} So although supplementation may go a long way in helping pregnant and breastfeeding women to reach recommended iodine intake levels and therefore avoid foetal and infant IDD's and deficiency issues in women, it is crucial that education is also provided to increase awareness of the importance of adequate iodine intake in this vulnerable group.

References

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About the Author



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Originally from New Zealand, Sandra has been living in Oslo, where she recently completed a Bachelor in Public Health Nutrition. She has a passion for nutrition and fitness, with a particular interest in nutrition psychology and digestive health. She is now based in Brisbane, where you can generally find her at the local farmers market, trying out new cafés or enjoying a riverside run.