

Iodine deficiency in the UK: grabbing the low-hanging fruit

In this era of global obesity and diabetes epidemics, simple solutions to public health problems seem almost inconceivable. And if such an easily solved issue were to arise, it might be expected that politicians and public health authorities would jump at the chance to respond, claim victory, and improve the health of the population.

The UK's iodine-deficiency problem is one such issue. We've known since 2011 that the UK population is mildly iodine deficient. In fact, the country now ranks seventh among the ten most iodine-deficient nations in the world, one of only two high-income countries on the list.

Iodine deficiency is a particular issue during pregnancy and lactation, when the body's demand for iodine escalates. Iodine and pregnancy was the subject of a symposium held on March 17 at the Royal College of Obstetricians and Gynaecologists (London, UK), under the auspices of the Iodine Global Network. The symposium convened researchers, health professionals, and advocates to discuss the problem of iodine deficiency in the UK, and why this issue has failed to capture the attention of politicians and public health authorities.

Findings from some studies have shown that low maternal iodine concentrations during pregnancy are associated with reduced verbal intelligence quotient (IQ) and reading abilities in children. On the basis of these findings, WHO now recommends that pregnant and lactating women increase their iodine intake from 150 to 250 µg per day. However, the UK Scientific Advisory Committee on Nutrition (SACN) has not updated the UK recommendations accordingly. And although the guidelines from the UK National Institute for Health and Care Excellence (NICE) for nutrition during pregnancy include recommendations about folic acid and vitamin D, iodine is not mentioned. SACN says that insufficient scientific evidence is available to justify updating UK recommendations for iodine requirements during pregnancy. True, few studies have investigated the effect of iodine supplementation on cognitive development in offspring, and the results are not unequivocal. Yet, faced with similarly mild levels of iodine deficiency and the same amount of scientific evidence, other high-income countries—including Germany, Switzerland, and the Netherlands—have taken swift action.

So what is the solution? WHO recommends that iodised household salt be the primary source

of additional dietary iodine. But mandatory salt iodisation is an unpopular idea in the UK. Iodised salt is manufactured in the country, but is produced almost entirely for export and is not widely available to the public. Part of the problem might also be a perceived conflict between the idea of promoting consumption of iodised salt and the UK's successful salt reduction initiative, which contributed to the ethos that all salt is bad. But in a 2007 statement on salt reduction, WHO stressed that these issues need not be at odds, and that iodine fortification via salt does not require individuals to increase their consumption.

A related approach would be to mandate the use of iodised salt in processed foods that are consumed by a large proportion of the population. This was the approach taken in Australia and Denmark, where the government mandated the use of iodised salt in the manufacture of bread and other products.

If mandatory iodine supplementation proves to be too extreme a policy approach in the UK, we must at least ensure that iodine intake is sufficient in those who need it most—ie, women of childbearing age, and those who are pregnant or lactating. This strategy could be easily accomplished by distributing commercially available prenatal vitamins containing iodine. Such a strategy also makes good economic sense: a cost-effectiveness analysis published in 2015 showed that providing iodine tablets to pregnant and lactating women in the UK could potentially save money when the societal and economic costs of reduced IQ in infancy are taken into account. Educational campaigns are also essential to increase awareness of the importance of iodine during pregnancy, and to promote the consumption of iodine-rich foods, such as milk and white fish.

Clearer insight into the effects of iodine deficiency during pregnancy will require placebo-controlled trials of iodine supplementation in women with mild-to-moderate iodine deficiency. But such trials are unlikely to be funded because clear ethical questions arise with respect to assigning women to the placebo group.

SACN is out of step on the issue of iodine deficiency, and immediate action, based on existing evidence, is needed before the problem gets any worse. Iodine deficiency is the low-hanging fruit of public health in the UK: it's time to grab it. ■ [The Lancet Diabetes & Endocrinology](#)



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Lancet Diabetes Endocrinol 2016

Published Online
April 26, 2016
[http://dx.doi.org/10.1016/S2213-8587\(16\)30055-9](http://dx.doi.org/10.1016/S2213-8587(16)30055-9)

For more on **global trends in iodine deficiency** see *J Nutr* 2012; **142**: 744

For the **Iodine Global Network** see <http://www.ign.org>

For a **study of iodine and pregnancy** see *Articles Lancet* 2013; **382**: 331-37

For a **second study of iodine and pregnancy** see *Clin Endocrinol Metab* 2013; **98**: 1954-62

For the **NICE guidelines for maternal and child nutrition** see <https://www.nice.org.uk/guidance/ph11>

For the **SACN 2014 statement on iodine and health** see https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/339439/SACN_iodine_and_Health_2014.pdf

For the **WHO statement on salt reduction** see http://www.who.int/dietphysicalactivity/reducingsaltintake_EN.pdf

For more on the **costs and benefits of iodine supplementation for pregnant women** see *Articles Lancet Diabetes Endocrinol* 2015; **3**: 715-22