

UK study highlights the increasing problem of iodine deficiency

In practice I've seen a staggering number of clients, virtually all of them female, who are taking thyroid medication. And these often aren't people in the older age groups, where perhaps the ravages of time could be blamed for this very important gland ceasing to work efficiently.

A recent study¹, commissioned by the British Thyroid Association, reported that the UK is now iodine-deficient, with researchers indicating an urgent need for a comprehensive investigation of the UK iodine status and recommendations to safeguard public health. The findings, presented at the Society for Endocrinology annual conference, demonstrate iodine deficiency in a sample population of 14-15-year-old girls.

Iodine is one of the nutrients that is key to the proper functioning of the thyroid gland and the only known function of iodine in man is as a component of thyroid secretions, principally triiodothyronine (T3) and thyroxine (T4). Iodine is required in small amounts by humans, the current RDA being 150 micrograms per day.

Why is thyroid dysfunction seemingly so rampant? Blame is inevitably being put on diet and this could be particularly relevant for vegetarians and vegans² since dairy products and fish provide some of the highest dietary levels of iodine. One cup of milk contains about half the amount of iodine needed per day. That's not to say these groups of people can't find a good vegetarian source of iodine, it's more likely to be that the best source, seaweed, isn't a common component of the average Western diet.

What problems can an under-active thyroid bring? Bearing in mind this endocrine gland governs metabolism, for many people the first obvious signs of problem will be varying degrees of low-energy, and for many people there will be unexplained weight gain. The whole body and the nervous system need iodine, especially under stress. But according to the World Health Organisation (WHO) young women of child-bearing age are the most susceptible to the adverse effects of iodine-deficiency and even mild deficiency may have an impact on the developing brain of foetuses and young children. It can also cause goitre. The WHO claims that iodine-deficient communities have IQs up to 13.5 points lower than similar but iodine-sufficient communities, and according to the WHO, iodine deficiency is the most common cause of preventable mental impairment worldwide.

According to Biolab, the mild iodine deficiency that is now seen in the UK can be easily corrected by emphasis on iodine-rich foods and the use of iodised salt, together with modest supplementation of 0.15 – 0.30 mg per day for several months. The WHO has conducted a global programme of salt iodisation since 1993, this being a common method for correction of iodine deficiency – the addition of potassium iodate to salt for human and livestock consumption to give a concentration of approximately 15 ppm of iodine. The addition of iodine to salt used in products such as bread has proved successful in Denmark. The UK does not yet require salt producers to add iodine to their salt.

So, if we have no statutory requirement is unrestricted supplementation a safe option. Not necessarily! Normally there is a high tolerance to ingested iodine with a wide safety margin. An upper dietary limit of 2 mg per day has been proposed, which is exceeded only exceptionally. On a high seaweed diet in Japan, intakes of up to 5 mg per day are reported to cause no ill-effects. It is, however, not correct to assume that the administration of iodine is entirely non-hazardous, as it can have profound and variable effects on thyroid gland function. Iodine is a known goitrogen with high intake. Though there is often tolerance to high doses of iodine (as it reported from Japan) adverse effects can occur as a result of either high supplemental doses or following modest increases in intake in populations after the introduction of iodised salt. In the UK the Guidance Level for iodine supplements was set

at 0.5 mg by the Food Standards Agency in 2003, which could result in a maximum Total Safe Intake of 0.94 mg. The equivalent US Tolerable Upper Intake Level from all sources is 1.1 mg. Both the UK Reference Nutrient Intake and the US RDA are 0.15mg.

Seagreens® reports a number of testimonials for their wild 'wrack' seaweed supplements, covering a spectrum of disorders ranging from low thyroid function to the removal of heavy metals and autism. One capsule of their 'Iodine+Capsules' provides 350µg of naturally chelated iodine plus the micronutrients needed for its metabolism – easily absorbed, stable and colloidal.

Biolab provides an efficient and economical test of urine iodine concentration and the laboratory recommends this as the best single indicator of iodine nutrition, with the following stratification of reference values.

Urine iodine µmol/L:

0–0.15 = Severe deficiency

0.16–0.38 = Moderate deficiency

0.40–0.78 = Mild deficiency

0.79–1.56 = Optimal

1.57–2.36 = Risk of iodine-induced hyperthyroidism

>2.37 = Excessive risk of hyperthyroidism and autoimmune thyroid disease

You'll find more information about Seagreens® and Biolab on the Links page of the Naturopathic Nutrition Association's website www.nna-uk.com

1. Vanderpump M, et al. Assessment of the UK iodine status: a National Survey. Endocrine Abstracts 2011;25 OC3.8
2. Remer T, et al. Increased risk of iodine deficiency with vegetarian nutrition. Br J Nutr. 1999;81(1):45-9.