



## World Thyroid Day-2017

This year, the Belgian Thyroid Club (BTC) is commemorating the 10<sup>th</sup> Annual World Thyroid Day (WTD), on May 25, 2017. Established in 2008, this day was initiated in order to promote awareness about thyroid diseases. In addition, the BTC commemorates this year the 25<sup>th</sup> anniversary of its creation.

The BTC was born in 1990 to bring together people from scientific organizations to discuss topics more directly related to the Belgian medical practice and/or scientific interests. The BTC have bi-annual meetings attended by professional clinical physicians who manage patients with thyroid disease, and by scientists conducting research on the physiology and diseases of the thyroid. This year, the BTC anniversary meeting took place on Saturday the 13<sup>th</sup> of May at the Castle of Bouchout in Meise. Professor Dagmar Fuehrer from Essen and Professor Cosimo Durante from Rome were the two outstanding guest speakers at this meeting. In addition, the BTC fundamental research award winner, Manuel Saiselet (ULB) delivered the Lecture Award of this year.

Thyroid diseases are one of the most frequent endocrine diseases particularly in women. Multiples factors influences the prevalence of thyroid diseases and, among them, the iodine intake of the population is one of the most important

### **Iodine status in Belgium**

In Belgium, iodine intake is marginally low. Nevertheless, mild iodine deficiency (MID) is responsible for a higher prevalence of thyroid nodules in Belgium compared to areas of iodine sufficiency, such as Switzerland and the USA. Autonomous thyroid nodules (ATN) and multinodular goiter (MNG) are the main causes of hyperthyroidism in the adult population particularly in the elderly. Thyroid nodules lead frequently to additional investigations in order to exclude malignancy. The morbidity associated with thyroid nodules and MNG could to some

extent, be prevented by the optimization of iodine intake in the Belgian population. It has been also suggested that the cognitive outcomes of children born from mildly iodine deficient pregnant women may be affected. Several studies from MID areas have reported an association between intelligence quotient, auditory threshold and the adequacy of iodine intake in children.

### **Current iodine status**

The first national survey on iodine status in school-aged children (SAC) was performed in 1998. This survey showed that the median urinary iodine concentrations (UIC), a biomarker of iodine intake, in schoolchildren was 80 µg/L (recommended values: 100-299 µg/L) indicating MID.

In 2010, two national surveys, in SAC and pregnant women, on iodine nutrition were launched at the request of the Ministry of Health (MOH).

The results of the SAC survey in 2010 showed a median UIC of 113 µg/L indicating that SAC were not anymore iodine deficient. On the contrary the pregnant women survey showed a median UIC of 124 µg/L (recommended values: 150-249 µg/L) suggesting that pregnant women unlike children are still mildly iodine deficient.

### **Strategy to optimize iodine intake**

Optimizing iodine intake was chosen among several other nutritional issues as a priority by the MOH in its “National Nutrition and Health Plan for Belgium” (NNHP-B) for 2005–2010. Within the framework of the NNHP-B a strategy to increase iodine intake in Belgium was adopted. This strategy was a selective, progressive and monitored approach. This strategy was matched, by the MOH, to the campaign of salt reduction, which is not, by any means, in contradiction with the utilization of iodized salt, as the concentration of iodine in salt can be adapted to the actual salt consumption of the population.

Bread was fortified voluntary with iodized salt by the bakery industry in 2009. This fortification of bread may explain the higher median UIC reported in the 2010 survey in SAC. This selective approach was chosen in order to avoid an increase of iodine beyond the optimal intake.

In addition to the fortification of bread with iodine, the visibility of iodized salt in the markets should be increase and the promotion of the utilization of vitamins containing iodine for pregnant and lactating women were proposed as complementary measures. However these measures have not yet been implemented.

Monitoring is an essential component of the iodine optimization strategy. The survey on iodine

status of the population should perform every five years and this delay is at present overdue in Belgium as the last survey was performed in 2010.

## **Conclusion**

Bread fortification with iodized salt, a simple and inexpensive measure, has increased iodine intake in the Belgian population, at least in children. Although this was an important step for optimizing iodine intake, pregnant women are still mildly iodine deficient in Belgium. The sustainability of the control program so far implemented required the long-term commitment and coordination of health authorities. The implantation of new cost-effective measures to optimize iodine intake in Belgium particularly in pregnant women are still to be implemented.

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