Sustaining the elimination of iodine deficiency disorders

Progress Report submitted to the 69th World Health Assembly, 23–28 May 2016

As WHO finalizes the update of the Micronutrients Database in the Vitamin and Mineral Nutrition Information System (VMNIS), the Iodine Global Network has been tracking the progress of public health efforts to eliminate iodine deficiency disorders. Since 1993, tremendous progress has been made in reducing iodine deficiency globally. It was estimated in 1993 that the populations of 110 countries had inadequate iodine intakes; this has been steadily reduced over the years to 54 countries in 2003, 47 in 2007, 32 in 2012 and only 25 in 2015 *(1)*. However, these data are based primarily on school-age children and it is now known that the adequate iodine nutrition status of school-age children may not indicate adequate iodine nutrition status among other population groups, such as pregnant women, who are particularly vulnerable to iodine deficiency *(2)*. More surveys are starting to assess the iodine status of pregnant women but data from most countries are currently limited.

Although the number of countries where iodine deficiency is a public health problem has been reduced, the number of countries whose populations have excessive iodine intakes (median urinary iodine concentration ≥300 µg/L) has been rising – from 7 in 2007 to 13 in 2015 *(1)*. Susceptible groups within these countries may be at risk of adverse health consequences, such as iodine-induced hyperthyroidism and autoimmune thyroid disease *(3)*.

The preferred strategy for the control of iodine deficiency disorders remains universal salt iodization (USI). In 2014, WHO released updated guidance on salt iodization recommending that all food-grade salt, which is used in households and food processing, be fortified with iodine for the prevention and control of iodine deficiency disorders *(4)*. It was recognized that strategies for salt reduction and salt iodization are compatible and that monitoring of both salt/sodium intake and iodine intake at the country level is needed to ensure that individuals consume sufficient iodine despite reductions in salt intake. The concentration of iodine should be adjusted by each country in the light of their own data regarding dietary salt intake. Data on household coverage with iodized salt are summarized each year by UNICEF in its annual reports on the state of the world's children. According to the 2015 report *(5)*, primarily reflecting data from the period 2009–2013, 75% of households worldwide are estimated to have access to iodized table salt.

"Monitoring and evaluating the impact of programmes to control iodine deficiency disorders are crucial for ensuring that interventions are effective, safe, and equitable."

Iodine supplementation is also an option for the control of iodine deficiency disorders, particularly for vulnerable groups such as pregnant women and young children living in high-risk communities who are unlikely to have access to iodized salt *(6)* or as a temporary strategy when salt iodization is not successfully implemented. WHO has commissioned an updated systematic review on the effects of iodine supplementation for women during the preconception, pregnancy and postpartum periods and is updating guidance on the use of iodine supplements as part of routine antenatal care in 2016 *(7)*.

Monitoring and evaluating the impact of programmes to control iodine deficiency disorders are crucial for ensuring that interventions are effective, safe, and equitable. It is recognized that there is a need for updated guidance on the use and interpretation of biomarkers for assessing iodine status.

In 2016, WHO will review the accuracy of commonly used biomarkers in screening and diagnostic tests for assessing the iodine status in different populations. These reviews are expected to inform updated guidance.

References

1. Global Iodine Nutrition Scorecard 2015. Zurich: Iodine Global Network; 2015 (http://www.ign.org/cm_data/ Scorecard_2015_August_26_new.pdf, accessed 16 March 2016).
2. Wong EM et al. Comparison of median urinary iodine concentration as an indicator of iodine status among pregnant women, school-age children, and nonpregnant women. Food Nutr Bull. 2011;32(3):206–12.
3. Urinary iodine concentrations for determining iodine status in populations. Vitamin and Mineral Nutrition Information System. Geneva: World Health Organization; 2013 (http://apps.who.int/iris/bitstream/10665/85972/1/ WHO_NMH_NHD_EPG_13.1_eng.pdf?ua=1, accessed 16 March 2016).
4. Guideline: fortification of food-grade salt with iodine for the prevention and control of iodine deficiency disorders. Geneva: World Health Organization; 2014.
5. The state of the world's children 2015: reimagine the future: innovation for every child. New York (NY): United Nations Children's Fund; 2015 (http://www.unicef.org/publications/files/SOWC_2015_Summary_and_Tables.pdf, accessed 16 March 2016).
6. WHO, UNICEF. Joint statement: Reaching optimal iodine nutrition in pregnant and lactating women and young children. Geneva: World Health Organization; 2007.
7. De-Regil LM, et al. Iodine supplementation for women during the preconception, pregnancy and postpartum period (Protocol). Cochrane Database of Systematic Reviews 2015, Issue 6. Art. No.: CD011761. doi:10.1002/14651858.CD011761.