

# Pregnant women are still iodine deficient in St. Petersburg, Russia

**D. Soboleva** First St. Petersburg State Medical University **S. Dora** First St. Petersburg State Medical University **A. Volkova** First St. Petersburg State Medical University **T. Karonova** Almazov National Medical Research Centre **E. Grineva** Almazov National Medical Research Centre, St. Petersburg, **G. Gerasimov** IGN Regional Coordinator for Eastern Europe and Central Asia

On June 27, 2017 the Almazov National Medical Research Centre of the Russian Ministry of Health and the Iodine Global Network held a Round Table Meeting entitled “Iodine Deficiency Disorders in the 21st Century”. The agenda covered all aspects of iodine nutrition and prevention of iodine deficiency, with a focus on the iodine nutritional status of the adult population in St. Petersburg.

Previous assessments conducted in school-age children (SAC) showed various degrees of iodine deficiency in St. Petersburg. A 2012 representative survey of 883 SAC reported a median urinary iodine concentration (UIC) of 67.8 µg/L, consistent with mild iodine deficiency (1). A more recent survey, conducted in St. Petersburg in 2013–15, assessed the iodine status of 358 adults and 184 pregnant women (PW) (2). The median UIC in adults was 91.2 µg/L, which may indicate borderline iodine deficiency. Forty one percent of the adult respondents reported use of iodized salt, 48% preferred non-iodized salt and 11% did not know which type of

salt they used at home (2). Although 51% of PW reported using iodized salt at home, their median UIC (112 µg/L) was indicative of insufficient iodine intake. In the absence of mandatory salt iodization in Russia, prevention of iodine deficiency, especially during pregnancy, relies primarily on the use of iodine supplements. However, in St. Petersburg only 50% of PW reported taking such supplements. Women who were taking iodine supplements during pregnancy had a significantly higher median UIC than women who were not taking any (148.7 vs. 94.3 µg/L,  $p < 0.05$ ) (2).

The most common (29.9%) supplement dose was 150 µg of iodine/day. However, this amount was not enough to provide adequate amounts of iodine: optimal iodine status was reported only among those pregnant women who were taking supplements with at least 200 µg iodine (median



**Presenters of the Round Table meeting in St. Petersburg 2017 (left to right): G. Gerasimov, E. Grineva, M. Zimmermann, P. Popova and D. Soboleva**

UIC 166 µg/L) or supplements with at least 200 µg iodine in addition to iodized salt (median UIC 171 µg/L) (2). The results of neonatal screening in St. Petersburg (65,021 newborns in 2013 and 67,881 in 2014) showed a relatively high (6.9%) frequency of TSH levels above 5 mIU/L (2,3). A “normal” frequency, reflecting optimal iodine intake, would be expected to be below 3%. It should be noted that the frequency of elevated TSH in newborns had increased compared to 2012 (3.8%) but was still much lower than in 2004 (11%) (1). These differences may be attributed to changes in the patterns of iodine supplement use during pregnancy.

## References

1. Skorodok Y et al. Iodine deficiency in megapolis bordering Gulf of Finland: myth or reality? *Clin Experim Thyroidology* 2013, (9)2:36–40 (in Russian)
2. Soboleva D et al. Assessment of iodine prophylaxis effectiveness in adult population of Saint Petersburg. *Consilium Medicum* 2017, 4:65–69 (in Russian)
3. Soboleva D et al. Iodine status of pregnant women living in Saint-Petersburg. The effectiveness of iodine prevention in risk group. *Problems of Women Health* 2015, (10)2:25–31 (in Russian)

**FIGURE 1 Daily use of iodine supplements by pregnant women in St. Petersburg according to the survey.**

