Abkhazia is a partially recognized state at the crossroads of Western Asia and Eastern Europe, on the eastern coast of the Black Sea, south of Russia and northwest of Georgia. It covers 8,660 sq. km and has a population of around 240,000. Its capital is Sukhumi. While Georgia exerts no control over its former Autonomous Republic, the Georgian government, the United Nations and the majority of the world's governments (with the exception of Russia and few other countries) consider Abkhazia part of Georgia. Like in other parts of the former USSR, iodine deficiency in the Caucasus Republics (Georgia, Armenia, and Azerbaijan) was virtually eliminated in the 1950s to 1980s, which helped to significantly reduce the prevalence of endemic goiter and eliminate the most severe manifestations of IDD, such as cretinism.

While many of the other newly independent states managed to successfully revive their IDD prevention programs in the mid 1990s, and went on to achieve significant improvements in iodine nutrition status by 2010, Abkhazia lagged significantly behind. It was only recently (in May 2016) that the Ministry of Health, with technical support from the IGN and UNICEF, conducted the first ever survey of iodine nutrition and use of iodized salt in Abkhazia.

The survey recruited 212 participants from three administrative districts: Gagra, Sukhumi and Gali (see map). Among them were 151 school-age children (SAC, 8–12 year-old), recruited from schools, and 61 pregnant women aged 18–39 years mostly in the 2nd and 3rd trimester of pregnancy, recruited from prenatal clinics. Of the 151 SAC 67 were living in urban and 84 in rural areas. The two urban sites (Sukhumi and Gagra) are located on the Black Sea coast, while the rural schools are all inland. The women attending the prenatal clinic in Gali were mainly from rural inland villages; those from Sukhumi and Gagra were from coastal towns. Spot urine samples as well as samples of household kitchen salt were collected at each survey site. All salt samples were tested for iodine content using qualitative rapid test kits (RTKs: MBI Kits, India). Quantitative testing of the salt was not carried out, as only very few salt samples were found to contain any iodine. The urinary iodine concentration (UIC) was measured at the laboratory of A.D. Sakharov Environmental Institute of the Belarus State University in Minsk.

The survey findings are concerning: the median urinary UIC in school-age children is only 29 µg/L (optimal range: 100–299 µg/L), while the median UIC in pregnant women is 27 µg/L (optimal range: 150–499 µg/L), which suggests that both population groups may be iodine deficient (see Table 1). In SAC, the median UIC was higher in urban compared to rural areas (36.3 µg/L vs 24.1 µg/L). No such difference was observed in pregnant women.
Salt and urine samples are being collected for analysis of iodine content. The proportion of SAC with urinary iodine levels below 100 µg/L was very high at 97%, with 30.5% of values below 20 µg/L. In pregnant women, the median UIC was alarmingly low at all three surveyed sites, but it was particularly low (below 20 µg/L, indicating severe iodine deficiency) in the capital city of Sukhumi. Only 3.4% of pregnant women had UICs within the optimal range of 150–499 µg/L, while 37.9% UICs were below 20 µg/L.

Why are children and pregnant women iodine deficient?

Although Abkhazia is on the Black Sea, fish and seafood are mostly imported and quite expensive; for this reason they are not widely consumed by the population. Despite local beliefs, that persimmon, feijoa (Acca sellowiana), and walnuts are rich sources of iodine, in fact, there are almost no local natural, rich sources of dietary iodine in Abkhazia. At the same time, household coverage of iodized salt appears to be very low: only five out of the 150 tested salt samples were iodized (3.3%). While iodized salt (premium brands only) was available in urban supermarkets, it was not commonly sold in the rural shops or markets. In addition, a considerable price difference between the premium (iodized) salt and non-iodized salt in economy packaging prevents most customers from buying it. In the survey, only a few participants reported buying iodized salt to season food. There is no current legislation in Abkhazia to limit the import or use of non-iodized salt.

A questionnaire on the use of iodized salt suggests that the vast majority of pregnant women (88%) are aware of the existence of iodized salt, but only 2% declare a strong preference for purchasing iodized salt. The reported purchasing habits (preference given to salt in its original packaging with a label, buying salt in smaller volumes, and buying from preferred shops) suggest that it might be possible to increase the sales of iodized salt if a reasonably priced variety would become available on the market. When asked about the benefits of iodized salt, only a relatively small proportion of respondents (17%) knew that it prevents goiter. Recent experience of similar questionnaires in Georgia (in 2016) and Tajikistan (in 2015) shows that this is rather low: in the other two surveys, more than 90% of respondents recognized goiter prevention as the main beneficial effect of iodized salt.

What is next for Abkhazia?

The survey results are alarming, as they point to the presence of moderate-to-severe iodine deficiency in the Abkhaz population, including pregnant women, which puts their babies at risk of cretinism, impaired cognitive development and intelligence, as well as goiter. To eliminate the risk of iodine deficiency disorders and achieve optimal iodine nutrition, Abkhazia should urgently implement appropriate legislative/regulatory measures to restrict the import, sale, and use of non-iodized salt. There is no local salt production in Abkhazia that would require time and resources in order to start iodization. Fortunately, all salt in Abkhazia is imported from Russia by a very limited number of wholesale companies and, in theory, switching from import of mainly non-iodized to exclusively iodized salt should not pose a problem.

The survey report submitted to the Government of Abkhazia calls for the adoption of legislation that would ban all import, wholesale and retail trade of common salt, as well as the use of non-iodized salt in the catering and food processing (baking) industry. Similar laws completely banning non-iodized salt were adopted 10–15 years ago in Armenia, Azerbaijan, Georgia, Turkmenistan, Uzbekistan, Kazakhstan and other post-Soviet states, which have subsequently achieved optimal iodine nutrition at the national level.

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