Controlling IDD in Ukraine: a ground-breaking program shows the way

Only 1/3rd of Ukrainian households are using iodized salt and, in western parts of the country, one child in five is goitrous due to lack of dietary iodine

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Ukraine has a population of 47 million, 8.8 million of which are children. Iodine deficiency disorders (IDD) are a major public health problem in the country. With the assistance of UNICEF and the U.S. Centers for Disease Control and Prevention (1), a 2002 national assessment found iodine deficiency was prevalent nationwide. In some regions in Western Ukraine, one child in five is goitrous due to lack of dietary iodine. Despite the clear evidence of iodine deficiency nationwide and the international experience with universal salt iodization (USI), the government of Ukraine is...

THE INTERNATIONAL COUNCIL FOR CONTROL OF IODINE DEFICIENCY DISORDERS (ICCIDD) is a nonprofit, nongovernmental organization dedicated to sustained optimal iodine nutrition and the elimination of iodine deficiency throughout the world. Its activities have been supported by the international aid programs of Australia, Canada, Netherlands, USA, and also by funds from UNICEF, the World Bank and others.
remains hesitant about introducing USI, the most efficient strategy for IDD elimination.

UNICEF is committed to supporting national efforts on IDD elimination in Ukraine. These efforts include high-level advocacy for adoption of a USI law, and communication to the public on the benefit of iodized salt. A recent pilot program in one oblast (an administrative territorial division within Ukraine, see map) was developed to generate evidence and contribute to national policy development and advocacy in support of USI. The oblast of Lviv was selected for the pilot study in 2004.

Strategies and partners

In the first stage of the project in 2005-2006, the emphasis was on raising awareness of IDD/USI among the main stakeholders and establishing an inter-sectoral partnership for implementation of the USI strategy. Twenty-five seminars were conducted and 730 local administrators, health care specialists, teachers, and community and youth leaders were trained to understand the benefits of adequate iodine nutrition and the cost-benefits of salt iodization in relation to public health. One of the most relevant target groups included in the education campaign were trade and wholesale representatives. They are a group in direct contact with consumers and are able to influence consumers’ attitudes towards iodized salt, in order to promote iodized salt as a ‘healthy’ product.

A Coordination Council was established under the Governor to ensure inter-sectoral collaboration and coordination between the different state structures involved into the supply, distribution, quality control and monitoring of household use of iodized salt. A plan for monitoring iodized salt on the market and consumption of iodized salt was developed and successfully implemented.

Documents were issued to: 1) ensure availability of iodized salt at each sales point; 2) allow regulatory monitoring of the quality of iodized salt at the wholesale level by sanitary stations; and 3) collect information on household use of iodized salt by the Department of State Statistics. A strong collaboration between the education and health departments within the oblast administration supported school education on IDD and the impact evaluation survey. Throughout the duration of the project, the local mass media disseminated information about IDD control on regular basis.

Results

The household use of iodized salt in Lviv oblast one year after beginning the project was much higher than the Ukrainian national average. As a part of the monitoring program, in 2005 the oblast Department of Statistics conducted a survey of 548 households. The study found 77.4% were using iodised salt and 98.5% of all shops sold iodized salt. In 2006, among 685 households surveyed, 81.3% were using iodized salt.

Compared to the 2005 national average (31% of households using iodized salt), the level of iodized salt consumption is ca. 2.5 times higher in Lviv oblast.

In May 2006, a 30 cluster school-based survey was conducted to measure the impact of iodized salt consumption on the iodine nutrition of the population. A total of 844 schoolchildren, aged 6-12 years, were examined, urine samples for analysis were collected and salt samples from their homes were tested for iodine. The survey was designed to provide representative data on the iodine nutrition of the 2.6 million people living in the Lviv oblast and create the basis for building a national monitoring system. Urinary iodine concentration (UIC) was measured by the IRLI laboratory in Kiev. The children were asked to bring salt samples from their homes to school on the day of examination. Household salt iodine content was measured at school using MBI rapid testing kits. The children were also requested to report the use of iodine-fortified foods and tablets.
The survey found a median (range) UIC of 144 (2-507) μg/L in the children, within the recommended range indicating adequate iodine intake (2). Only 12.3% of samples had a value <50 μg/L and 32.5% <100 μg/L. Fifty-nine percent were in the recommended range of 100 to 299 μg/L, and 8.9% were >300 μg/L, suggesting greater than recommended intakes. The field testing of salt samples for iodine found 65% were fortified with iodine. Only 8.2% of the schoolchildren surveyed reported use of iodine containing supplements. Compared to the Ukrainian national median UIC of 90 μg/L, indicating mild IDD, the increased use of iodized salt in Lviv has improved iodine intake among school-aged children. Although the goiter rate was still elevated at 22% in the second year of implementation of the project, the goiter rate is an

IDD indicator that needs a long period of time to normalize after iodine intakes improve. Overall, the survey confirmed the strong positive impact of the use of iodized salt due to implementation of the new project.

Conclusions

Due to an effective information campaign and proper local regulations, within two years the consumption of iodized salt markedly increased. This resulted in a substantial improvement in the iodine nutrition of children in the Lviv oblast. An external expert evaluation of the project confirmed the model was successful, and recommended scale-up by the Ukrainian Ministry of Health.