

Sessions Address Micronutrients' Link to Disease Prevention

For Americans, Russians or Kazaks, a diet rich in micronutrients such as iron, iodine and folic acid can go a long way toward warding off chronic disease and mental and physical disability. At a series of sessions in Atlanta, nutrition experts from the US Centers for Disease Control (CDC) and other institutions underscored the benefits of healthy eating and emphasized that solutions to nutrient deficiencies are well within reach.

Barbara Bowman, PhD, chief of the Chronic Disease Prevention Branch, Division of Nutrition and Physical Activity at CDC, kicked off the conference's chronic disease track by noting: "Next to tobacco, diet and [lack of] physical activity are probably the most important contributors to mortality in the United States ... so there is a tremendous opportunity for prevention here."

CDC scientists currently are focusing on reducing sodium, dietary fat and alcohol consumption in the US population, while increasing fruit and vegetable intake at the same time. Low household income remains an important challenge to ensuring good nutrition among American families, Bowman said.

Speakers at conference sessions on iron and iodine deficiency stressed that micronutrient malnutrition can be halted through international efforts to bring attention to the issue.

Iron

Iron deficiency leads to "the theft of intelligence and energy of our children here and in the NIS," said Richard Jackson, MD, MPH, director of the National Center for Environmental Health at CDC. "This is a major micronutrient deficiency. But we understand very well how to fix this—solutions are practical, effective and inexpensive."

Worldwide, more than 2 billion people are iron-deficient, with pregnant women, infants and children under age two at highest risk for the condition. In the Russian Federation, estimates have put iron deficiency among women at anywhere from 3 percent to 46 percent, Jackson said.

A recent CDC survey of 500 children in the Russian Federation found that 14 percent had iron-deficient anemia; similar studies in US children have found a 3.7 percent rate of iron deficiency, but this number varies widely according to family income level.

The consequences of iron deficiency can be severe, Jackson said. In children, symptoms include growth retardation and impaired cognitive development, increased absorption of heavy metals and immune system weakness. In adults, fatigue and a decrease in worker productivity are concerns. Primary iron deficiency prevention efforts in the US and elsewhere have focused on fortifying baby formula with iron and encouraging new mothers to breastfeed, in addition to promoting iron-rich foods and iron supplements for pregnant women.

"We need to seek widespread support among key decisionmakers across the world. An effective public health campaign against iron deficiency must reach food distributors, health care professionals and food policy experts," said Lloyd Kolbe, PhD, director, Division of Adolescent and School Health at CDC.

Frederick Trowbridge, MD, executive director of the International Life Science Institute in Atlanta, said the problem of iron deficiency could be solved for 10 cents per person per year through food fortification efforts.

Iodine

A session on iodine deficiency--the world's leading cause of mental retardation in children and a contributor to thyroid disease--addressed efforts to iodize salt supplies in the NIS and launch public education campaigns addressing the benefits of adequate iodine intake.

Last year, the Tbilisi, Georgia-Atlanta, Georgia partnership joined a team from CDC and Emory University's Program Against Micronutrient Malnutrition (PAMM) to assess iodine deficiency in the Republic of Georgia and recommend a national strategy to eliminate the problem ([see Fall 1997 CommonHealth](#)). The assessment found that 62 percent of newborns in Georgia were "severely" iodine-deficient, according to Ken Walker, MD, professor of medicine at Emory University.

Edmond McLoughney, senior program officer with the United Nations Children's Fund (UNICEF), told participants that consumers in the NIS must become vocal in order to spur governmental action mandating iodization of salt. "The problem is largely a hidden one, so there has been no real demand from the public ... and enforcement by local authorities [of salt iodization regulations] is negligent because it is not perceived to be a problem."

Haroutian Koushkyan, MD, PhD, chief executive officer at Erebuni Medical Center in Yerevan, Armenia, reported that a 1995 study of children and pregnant women in Armenia found a total goiter rate of 50 percent in the latter group. A new iodine deficiency journal, recent public service announcements and the Armenian First Lady's interest in micronutrient malnutrition have helped to raise the issue's profile in the Caucasian country.

Iodine and iron deficiency are also garnering new attention in the Russian Federation through OMNI (Opportunities for Micronutrient Interventions), which recently began a project in Moscow under a one-year grant from the US Agency for International Development. OMNI will work with AIHA, PAMM, CDC and UNICEF to sponsor several micronutrient workshops and conferences this year.

Folic Acid

Nutrition's effect on the developing fetus was also addressed in Atlanta. For women who become pregnant, ensuring adequate folic acid intake for up to three months before and after the time of conception can have a significant impact on prevention of birth defects, said Margaret Watkins of CDC's Division of Birth Defects and Developmental Disabilities.

Speaking to a meeting of the NIS Women's Health Task Force, Watkins noted that at least half of all cases of anencephaly, the partial or total absence of a brain in newborns, and spina bifida, a spinal defect, can be prevented through prenatal consumption of the US-recommended 0.4 milligrams of folic acid per day from sources such as citrus fruits, green vegetables and grains.

As of January 1998, the US Food and Drug Administration and the US Department of Agriculture will require all enriched foods to be fortified with folic acid. "This provides a rare opportunity to engage in primary prevention of serious birth defects," Watkins said. CDC hopes to work with AIHA's Women's Wellness Centers in the NIS to introduce educational materials on folic acid and other micronutrient intake.