Virtual elimination of iodine deficiency in the Americas: a public health triumph

In 2016, the American Region is the first in the world to achieve virtual elimination of iodine deficiency. This remarkable achievement was celebrated at a special IGN Symposium at the Micronutrient Forum Global Conference, on October 24 in Cancun, Mexico.

The American continent has a long history of iodine deficiency. Stone art and statues pre-dating the European colonization clearly show that endemic goiter existed there long before Columbus set sail for the western hemisphere. The areas affected by the highest burden of endemic goiter were concentrated in the western mountain ranges, extending from Mexico, through the Andes, as far as Chile. Since the 1930s, modern-day epidemiological surveys have confirmed that areas of severe iodine deficiency have existed in most American countries (1).

Pioneering research in the Americas and elsewhere established the link between iodine deficiency and irreversible fetal mental impairment. Global efforts to eliminate iodine deficiency were spurred by the World Summit for Children in 1990 and its endorsement of universal salt iodization (USI). Working in partnership with UNICEF, PAHO/WHO, and International Council for the Control of Iodine Deficiency Disorders (now Iodine Global Network), most national governments in Latin America have been fast to implement effective national USI programs. By 2003, iodine deficiency was considered a public health problem in only five countries (Guatemala, Bolivia, Cuba, Haiti, and the Dominican Republic).

For the past 13 years, population coverage with adequately iodized salt has been consistently high in the Americas at around 85%—the highest among all WHO Regions. Nearly 99% of the population of school-age children in the region is covered by iodine surveys; five countries (Ecuador, Panama, Paraguay, Peru, and Venezuela) conduct regular national surveys every 2–3 years, and the remaining countries rely on sub-national or regional data. By 2016, four of the five countries classified as iodine deficient before 2003 have achieved optimal iodine nutrition (2). Also in Haiti, preliminary evidence suggests that the population iodine needs are probably met thanks to the widespread consumption of bouillon, a condiment produced with iodized salt (3).

Marking the success at the Micronutrient Forum

On October 24, 2016, at the Micronutrient Forum in Cancun, Mexico, the IGN held a special Symposium to celebrate the tremendous progress towards optimal iodine nutrition in the Americas and the benefits realized for the people in the region.
Dr. Elizabeth Pearce (Boston University School of Medicine and IGN) presented an overview of the iodine situation in North America. Although iodine intakes appear to be sufficient in both Canada and the U.S., there is some concern that U.S. women may be mildly iodine deficient during pregnancy. The use of iodized table salt in the home has declined in the region, and currently the largest source of dietary iodine is milk and other dairy products.

Dr. Sergio Moreno (AMISAC and IGN) discussed the instrumental role of the partnership between national governments and the Latin American salt industry (particularly large salt producers, and producers’ associations) in supporting the national IDD programs. Future opportunities for the salt industry include greater support to small- and medium-sized producers, cross-border technology exchange, and regulatory integration at the regional level. Dr. Ruben Grajeda (PAHO) offered his perspective on the progress achieved in combining salt iodization with sodium reduction efforts in Latin American and Caribbean countries. Raised blood pressure affects almost a quarter of the region’s population, causing around 9.4 million deaths in 2010, and high salt consumption is a recognized contributor to this burden. Yet, it is critical that salt reduction efforts do not undermine two decades of remarkable progress to control IDD through USI. Importantly, strategies to reduce sodium intake are compatible with salt iodization, and they can and should be guided by an integrated monitoring and evaluation system.

Dr. Omar Dary (USAID and IGN) discussed the increasing role of processed foods and condiments in improving iodine status of the region’s population. Some key sources of dietary salt in Latin America are currently bouillon cubes, powdered soups, and bakery products. If all salt used in these products were to be iodized, the population would likely be iodine sufficient.

Celebrating the life’s achievements of Dr. Eduardo Pretell
In 1986, Prof. Eduardo Pretell of Lima, Peru, a pioneer in experimental and clinical studies on iodine deficiency, architect of the policy, and program leader for the sustainable elimination of iodine deficiency in Peru and Latin America, founded the Regional Office of ICCIDD in the Americas. The active presence of ICCIDD national coordinators throughout the region and the work of Prof. Pretell have been instrumental in achieving and sustaining the elimination of IDD in the Americas. In recognition of his outstanding contribution to the region’s success and to mark five decades of dedicated service to the people of Peru and Latin America, Prof. Pretell was presented with a commemorative award. See video of the award presentation: www.ign.org/mnforum.

Key factors for achieving and sustaining optimal iodine nutrition in the Americas

• Government commitment to USI, including enforcement of mandatory legislation, and program ownership.
• Close alliance with the salt industry to ensure sustained production of high-quality, adequately iodized salt.
• Regular monitoring of iodine status to identify programs that are not working and require remedial action. Data on the coverage of iodized salt has helped to better understand the role of iodized salt in processed foods and condiments, particularly, bouillon, in contributing to the iodine intake in several countries.
• Awareness of the consequences of iodine deficiency among government, salt producers, and the general public. Optimal iodine nutrition needs to be accepted as a fundamental right and USI as the most cost-effective tool to achieve it.
• Recognition that salt iodization and salt reduction are compatible and synergistic health policies.

References