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EDITORIAL

Salt Iodization, Monitoring, and Evaluation (SIME): an Effective Replacement for Universal Salt Iodization (USI)

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The first remarkably concise description of disorders caused by iodine deficiency appeared in 1908.[1] Since then, numerous studies have been conducted in all continents, in countries with varying degrees of iodine deficiency. Iodine deficiency is the leading cause of preventable brain damage.[2] Basil Hetzel introduced the term "iodine deficiency disorders" (IDD) in 1983, transforming the world's understanding of the problem from the trivial "endemic goiter" to a wide range of conditions, with the fetus and young children being especially vulnerable. The spectrum of IDD includes not only goiter but also impaired thyroid function, retarded growth and mental development (from mild forms in apparently normal schoolchildren to extreme forms of endemic cretinism), decreased fertility and increased prenatal mortality.[3]

WHO estimates that 2.2 billion people are at risk for IDD in 130 countries.[4] Programs to eliminate iodine deficiency have been established on the basis of an informal global partnership with the distribution of iodized salt, the so-called "Universal salt iodization" (USI).

Remarkable progress has been achieved for elimination of IDD in the last decade of the twentieth century. In 1990, 28.9% of the world's population (1572 million people) was at risk of IDD, 12% had goiter, 8% had some degree of mental impairment due to iodine deficiency and 2% were cretinous.[5] By 1999, 81% of the 130 countries where IDD was a public health problem had a national coordinating body, 78% had an action plan for IDD control, 75% had salt iodization legislation and 68% of households had access to iodized salt.[2]

Although great success has been achieved in universal recognition of IDD and major steps have been taken for their control and elimination, the participation of nationals is either insufficient or lacking.[6] National IDD committees are not always functional, and suffer frequently as a result of the country's political instability. Collaboration between health care providers, IDD experts, salt producers, communication specialists and consumer associates is often insufficient.[7] The most important handicap has been the slow development of an efficient monitoring system for national country programs.[8] Both process and outcome evaluations and monitoring are lacking in the majority of these IDD control programs.

Successful and sustainable IDD control programs have been achieved when a well-functioning monitoring system has been

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maintained. A good example of such a program is the IDD control program of the Islamic republic of Iran.[9] A sustainable and well-functioning iodization program is operating in Iran. From 1989, an effective and functional multidisciplinary national body (IDD National Committee), responsible to the government for the elimination of IDD has been active. Political commitment to universal salt iodization and the elimination of IDD led to the establishment of a program in 1989, which has been well-maintained until today, with the appointment of a responsible executive officer for the IDD elimination programe. Legislation on universal salt iodization has been implemented since 1992 and salt factories produce only iodized salt for household use. A program of public education and social mobilization on the importance of IDD and the consumption of iodized salt has been implemented and integrated into the health network. The country has been committed to assessment and re-assessment of progress in the elimination of IDD, with increased access to numerous laboratories capable of providing data on salt and urine iodine. Regular data on salt iodine at factory, retail and household levels are collected in each province and analyzed by the IDD executive officer. National monitoring of goiter rate, iodized salt consumption and urinary iodine is performed every 5 years. Cooperation from the salt industry in maintenance of quality control is excellent, supervised by the IDD executive officer. A database recording of results on regular monitoring procedures, particularly for salt iodine and urine iodine is available at the Ministry of Health and Medical Education.

The lack of success in many other countries in the development and sustainability of an efficient monitoring system presents a dismal picture. Field evaluation of iodine levels in factories, retailers, sellers and households is not performed on a regular basis and when it is done, it is mostly quantitative and does not allow for adequate program evaluation. The supporting laboratory network is not in place in many countries and urinary iodine measurement is available only in a few countries affected by IDD. Therefore, the national capacity for sustaining IDD control is still fragile in many.

The above-mentioned inadequacies do not diminish the unprecedented accomplishments of the past 15 years in the control of IDD, as a noncommunicable nutrition disease. However, they should remind us that USI, although achieved in the majority of countries where iodine deficiency is a major public health problem, is not sufficient by itself to eliminate IDD. The main objective should focus on suitable and sustainable iodine nutrition rather than on IDD control. Greater attention needs to be paid to the development of an efficient, sustainable and operating monitoring system in each country. In other words, salt iodization monitoring and evaluation (SIME) needs to replace USI.

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