

Progress in the elimination of iodine deficiency as a cause of brain damage by the year 2000

BS Hetzel

ICCIDD, Women's and Children's Hospital, North Adelaide, SA, 5006

Iodine deficiency is now recognised to be the most common preventable cause of brain damage in the world today with a global population of 2 billion at risk (WHO).

Since 1990 a global programme has proceeded with remarkable momentum for the elimination of iodine deficiency disorders (IDD) as a cause of brain damage by the year 2000 using the technology of universal salt iodization (USI) by the addition of iodine (20–40 mg/kilo) as potassium iodate to all salt for human and animal consumption.(1)

Following an earlier Nutrition Society lecture (1991) progress is now reported with special attention to the significant role of the International Council for Control of Iodine deficiency Disorders (ICCIDD), an international NGO founded in 1986 which now comprises an international multidisciplinary network of 600 professionals from 100 countries with a majority from developing countries first supported by Australia (AusAID) followed by UNICEF & WHO.

From its foundation the ICCIDD accepted technical assistance to national programmes as the first priority. This led to a close working relationship with the leading agencies WHO and UNICEF and with governments of countries with significant IDD public health problems. Subsequently the salt industry has been involved in a global partnership together with a World Service Club, Kiwanis International, which has raised US\$50 million for UNICEF for national IDD control programmes.

A WHO/UNICEF/ICCIDD Report (1999) revealed that of the 130 IDD affected countries, 105 had National Intersectoral Coordinating Bodies, 102 had Plans of Action for IDD control and 98 had Legislation in place. Of 5 billion people living in countries with IDD, 68% had access to iodized salt through universal salt iodization (USI).

A spectacular example of progress is provided by the People's Republic of China.

National Monitoring Results	1995	1997	1999
The proportion of households consuming iodized salt 20 mg/kg (%)	39.9	81.1	88.9
Urinary iodine level in children aged 8–10 median (ug/L)	164.8	330.2	306.0
Total goitre rate (%) by palpation	20.4	10.9	8.8
The production of iodized salt (10,000 tons)	539	620	753

Further progress can be anticipated, but sustainability requires regular monitoring of salt iodine and urine iodine. Salt iodine levels should be in the range of 20–40 mg of iodine per kilo and median urine iodine should be in the range of 100–200 ug/L. Levels below 200 ug/L are necessary to minimise the occurrence of transient iodine induced hyperthyroidism (IIH) in the iodine deficient population. Increase in iodine intake (200 ug) is required in pregnancy to provide for the needs of the growing fetus. Recent data from Sydney and Tasmania indicates that iodine deficiency has recurred in Australia.(2)

1. Hetzel BS. Iodine Deficiency: A Global Problem. *Med J Aust* 1996; 165: 28–29.
2. Eastman C. Where has all our iodine gone? *Med J Aust* 1999; 171: 455–456.