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Thyroid autoimmunity in the background of universal salt iodization

Autoimmune and iodine nutrition related problems are widely analyzed under various global programs. However, the link between these two issues is not yet clear. It is assumed on the basis of implementation of universal salt iodization (USI) that iodine deficiency disorders (IDD) has been improved. Frequency of antibodies was found increased after salt iodization program in Japanese children living in the sea-shore areas where sea-weeds rich in iodine content are the principal food of them. Few studies on animal model also revealed triggering of autoimmunity in thyroid by excess iodine intake. We have observed and apprehended some degree of relationship between thyroid autoimmunity and USI. During the last two decades, we have investigated antithyroid antibodies and urinary iodine level in various subgroups of subjects including pregnant and lactating mothers in the interface of ongoing USI. National survey in Bangladesh in 1993 found >69% of the population to be sufficient with iodine nutrition and found further improvement by the 1999-national survey. Among the limited studies on thyroid autoimmunity, Hasanat et al. observed an increased frequency of antithyroid antibodies in thyroid patients (27-34%) as well as controls (7-13%) in the face of normal or increased UI indicating a possibility of some link between iodization and autoimmunity. In this context, we have followed a higher frequency of positive antibodies in nodular goiter (43%), hypothyroid patients (81%), subclinical hypothyroidism (50%) and even in pregnancy (18%). On the other hand, investigations on UI revealed variable results – sufficient in diffuse and multi-nodular goiter as well as subclinical hypothyroidism and breast feeding mothers; but deficient in about 50% Grave's disease, in pregnancy as well as in school going children judged in light of urinary cut-off values for IDD. It is concluded that thyroid autoimmunity might have been altered by the intervention of USI program.

Biography

Muhammad Abul Hasanat has completed his MPhil and MD in Endocrinology from Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders, Dhaka, Bangladesh in 1990 and 1997 respectively. He is currently working as a Professor and Chairman in the Department of Endocrinology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh. He has more than 40 original articles published in national and international journals. His major research areas are diabetes (including GDM), PCOS and infertility, thyroid diseases and other endocrine problems. He is also working as Editor (American Research Journal of Endocrinology and International Journal of Diabetes) and Assoc. Editor (Obesity and Diabetes International) of different open access journals.

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