

Bioavailability of Iodine and Hardness (Magnesium and Calcium Salt) in Drinking Water in the Etiology of Endemic Goitre in Sundarban Delta of West Bengal (India)

AMAR K CHANDRA^{*,} SMRITIRATAN TRIPATHY^{**}, ARIJIT DEBNATH^{*} AND DISHARI GHOSH^{*}

Endemic goitre has been reported from the ecologically diverse Sundarban delta of West Bengal (India). To study the etiological factors for the persistence of endemic goitre, bioavailability of iodine and hardness of water used for drinking in the region were evaluated because these common environmental factors are inversely and directly related with goitre prevalence in several geographical regions. For the present study from 19 Community Development Blocks of Sundarban delta, 19 areas were selected at random. From each area at least 8 drinking water samples were collected and analyzed for iodine and the hardness (calcium and magnesium salt content). Iodine content in the drinking water samples was found in the range from 21 to 119 mg/L and total hardness of drinking water was found to range from 50 to 480 ppm. Presence of magnesium salt was found higher than the calcium salts in most of the samples. These findings suggest that the entire delta region is environmentally iodine sufficient but water is relatively hard and thus possibility of hardness of water for the persistence of endemic goitre may not be ruled out.

Key words : *Endemic goitre, iodine, water hardness, Sundarban delta*