



Original Article

Thyroid Dysfunction in a Cross Section of Population in Dhaka City

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Abstract

Thyroid disorders are highly prevalent in the world population. The aim of this study was to investigate the thyroid dysfunction and its correlation with serum thyroid hormones among a cross-section of population in Dhaka City, Bangladesh. Microparticle enzyme immuno-assay (MEIA) and fluorescent polarization immuno-assay (FPIA) method were used to analyze the level of thyroid stimulating hormone (TSH), triiodothyronine (T3) and thyroxin or tetraiodothyronine (T4) in serum. A total of 289 individuals (95 males and 194 females), aged 10-77 years were studied and thyroid dysfunction was found among 10.03% of individuals (males 8.42% and females 10.82%); of them 3.46% were subclinical hypothyroidism, 3.80% hypothyroidism, 1.73% subclinical hyperthyroidism, and 1.04% hyperthyroidism. The prevalence of subclinical hypothyroidism was significantly higher in females than males. Also, Thyroid dysfunction was found higher in middle age than earlier and older age groups in both males and females.

Key words: Thyroid dysfunction, thyroid stimulating hormone (TSH), triiodothyronine (T3), tetraiodothyronine (T4)

Introduction

Thyroid disorders are one of the most important public health problems of the world¹. It is common in the general population and the prevalence increases with age². In general, if there is too little thyroid hormone in the body, then it is called hypothyroidism, or if too much thyroid hormone, then it is called hyperthyroidism. The vast majority of thyroid disease is the "hypo-type". Both forms can occur at any age, but hypothyroidism is more common as people get older, especially in older women³. It is usually autoimmune in origin, presenting as either primary atrophic hypothyroidism or Hashimoto's thyroiditis⁴.

The thyroid gland is a butterfly-shaped gland in the front of the neck. It influences many systems of our body, especially the speed of our metabolism – the more the hormone, the faster our metabolism goes. Hypothyroidism symptoms, even when sub-

clinical, include: fatigue, cold extremities, low body temperature, poor skin healing, dry skin, coarse hair, loss of the outer third of the eyebrows, constipation, poor immune function, depression, increased blood cholesterol, blood pressure problems, fibrocystic breasts, long menstrual periods, infertility, mild diabetes, muscle pains and in pregnancy and childhood, mental retardation and developmental delay. Hyperthyroidism, which is less common, can manifest as anxiety, sleep disturbance, heart palpitations, thin, oily skin and hair, frontal hair loss, bulging eyes (called Graves disease) and other biochemical abnormalities such as osteoporosis. Both forms can occur at any age, but hypothyroidism is more common as people get older. Many women develop thyroid disease in association with pregnancy or menopause. There is a complex relationship between the thyroid, sex, adrenal and sugar-controlling hormones; if one goes off, the others often follow³.

