



An Epidemiological Perspective of Thyroid Disease Manifestations: A Cross Sectional Study

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Abstract

Thyroid diseases are common worldwide. In India too, there is a significant burden of thyroid diseases. According to a projection from various studies on thyroid disease, it has been estimated that about 42 million people in India suffer from thyroid diseases. This review will focus on the epidemiology of five common thyroid diseases in India: (1) hypothyroidism, (2) hyperthyroidism, (3) goiter and iodine deficiency disorders, (4) Hashimoto's thyroiditis, and (5) thyroid cancer.

Keywords: Thyroid diseases; hypothyroidism; dys-hormonogenesis; thyroiditis; thyroid dysgenesis

Introduction

Thyroid diseases are different from other diseases in terms of their ease of diagnosis, accessibility of medical treatment, and the relative visibility that even a small swelling of the thyroid offers to the treating physician. Early diagnosis and treatment remain the cornerstone of management.

Hypothyroidism

Among the various varieties of hypothyroidism, congenital hypothyroidism is probably the most important, as it is requiring an early diagnosis, which is usually followed by appropriate therapy that can prevent the onset of brain damage. Studies from Mumbai have suggested that congenital hypothyroidism is common in India, the disease occurring in 1 out of 2640 neonates, when compared with the worldwide average value of 1 in 3800 subjects. There is often a delay in the diagnosis of congenital hypothyroidism in the country.

Among adult people in India, the prevalence of hypothyroidism has been recently studied. In this population-based study done in Cochin on 971 adult subjects, the prevalence of hypothyroidism was 3.9%. The prevalence of subclinical hypothyroidism was also high in this study, the value being 9.4%. In women, the prevalence was higher, at 11.4%, when compared with men, in whom the prevalence was 6.2%.

Hyperthyroidism

The prevalence of hyperthyroidism has been studied in several studies. In an epidemiological study from Cochin, subclinical and overt hyperthyroidism were present in 1.6% and 1.3% of subjects participating in a community survey. In a hospital-based study of women from Pondicherry, subclinical and overt hyperthyroidism were present in 0.6% and 1.2% of subjects.

Goiter And Iodine Deficiency

The link between endemic goiter and iodine deficiency has been researched in India by several eminent researchers, and this has led to the publication of several important reports. Critical research has resulted in endemic goiter being reported from all over the country and not just from the Himalayan and Sub-Himalayan regions. Researchers from New Delhi had shown that this was linked to iodine deficiency and that this resulted in decompensated hypothyroidism in many cases. This led to landmark studies which showed that iodine deficiency was associated with hypothyroidism in neonates, setting the scene for the now legendary salt iodization program supported by the Government of India.

Autoimmune Thyroiditis in India

Population studies have suggested that about 16.7% of adult subjects have anti-thyroid peroxidase (TPO) antibodies and about 12.1% have anti-thyroglobulin (TG) antibodies. In this same study of 971 subjects, when subjects with abnormal

thyroid function were excluded, the prevalence of anti-TPO and anti-TG antibodies was 9.5% and 8.5%.

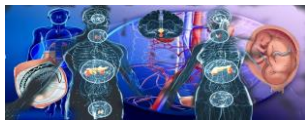
In a landmark study of Hashimoto's thyroiditis in India, 6283 schoolgirls from all over the country were screened. Among them, 1810 schoolgirls had a goiter. Among them 764 subjects underwent a fine needle aspiration cytology, and of these subjects, 58 (7.5%) had evidence of juvenile autoimmune thyroiditis (the term included both Hashimoto's thyroiditis and focal lymphocytic thyroiditis).

Conclusion

Nearly, half of the studied sample has low awareness scores regarding thyroid disease manifestations and its risk factors. The health authorities should hold more successful health education methods to improve the public and their caregivers' awareness of the various aspects of thyroid disorders and the value of their early detection and adequate control.

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