

Thyroid Dysfunction : Bangladesh Perspective

Md. Abbas Uddin^{1*}

Thyroid derived from the Greek word 'Thureos' meaning 'Shield'. Thyroid gland, an endocrine gland forming a shield like structure is about 2 inches long and located in front of the trachea and just below the larynx in the neck. It produces the iodine containing thyroid hormones T₄ (Thyroxin) and T₃ (Triiodothyronine) in response to Thyroid Stimulating Hormone (TSH) from the anterior pituitary gland. The thyroid hormones regulate vital body functions including metabolism, physical growth, neuronal development, reproduction and regulation of energy.

Bangladesh being densely populated developing country, its health care budget is only 1.4% of Gross National Product (GNP) with priority areas as population control, provision of clean drinking water and eradication of communicable disease. The treatment of non communicable disease like Thyroid Dysfunction has low priority in Bangladesh because of government health policy and high cost of treatment. Thyroid dysfunction is a silent disease and epidemic. Many developed countries have studied thyroid dysfunction awareness and developed guideline and educational programs accordingly. Globally, approximately 200 million people have thyroid dysfunction of various types, with more than 50% remaining undiagnosed. Many cases have been undiagnosed as the symptoms may be easily mistaken for depression, menopause or obesity. About 5% of the global population has overt hypothyroidism and about 2% has hyperthyroidism. Thyroiditis has been seen in as many as 12.5% of populations in various countries. Graves' disease affects 2% - 5% of females and 0.2% - 0.7% of males globally.

Thyroid nodules were widespread, with up to 50% of all individuals having at least one nodule by the age of 60 years. There are more than 560,000 new cases of

thyroid cancer reported every year around the world.¹ Unfortunately, only ~29.3% of the world's birth population is screened for congenital hypothyroidism.² Before 1993, Bangladesh had a high prevalence of iodine deficiency and consequent endemic goiter. Universal iodization of salt, which was introduced in 1993 and lasted up to 2007, changed the scenario. Bangladesh has achieved measurable progress in reducing iodine deficiency and goiter rates after the universal salt iodization program initiation. However, physiological iodine deficiency persists among more than one-third of children and women.³ The actual burden of thyroid dysfunction in Bangladesh is largely unknown though it is believed that 20% of our general population is suffering from any thyroid disorder.⁴ In a study showed that, the overall occurrence of thyroid dysfunction was 20.43%, the spectrum of thyroid dysfunction showed the highest incidence of diffuse goiter (7.35%) followed by sub-clinical hypothyroidism (6.59%), hypothyroidism (4.97%), hyperthyroidism (0.86%) and sub-clinical hyperthyroidism (0.65%).⁵ In a study, 25.8% of the women in their early pregnancy had thyroid dysfunction, subclinical hypothyroidism being the most common abnormality.⁶ The incidence of congenital hypothyroidism was found 1.5 per thousand living newborn.⁷ There is a considerable gap in understanding the actual prevalence of iodine deficiency thyroid disorders, hypothyroidism, hyperthyroidism, goiter, and thyroid malignancy in Bangladesh. The etiopathological distribution should be understood clearly for better management and prevention of the diseases as well.

For prevention and the early detection of thyroid dysfunction, the following measures should be emphasized.

- i) To estimate the thyroid dysfunction nation wide survey can be done.
- ii) Screening program for thyroid dysfunction for the high-risk group as women, especially pregnant lady.
- iii) Universal neonatal screening program to be introduced.
- iv) Responsible organizations should make an extra effort to raise awareness about the ubiquity of thyroid dysfunction among the community.

1. Head, Department of ENT
 Institute of Applied Health Sciences (IAHS) Chattogram.

*Correspondence : **Professor (Dr) Md. Abbas Uddin**
 Cell : +88 01911 88 15 48
 Email : abbasuddin70@gmail.com

Date of Submission : 10th May 2023
Date of Acceptance : 22nd May 2023

- v) □ Institutional participation in screening and awareness creating along with governmental holistic approaches.
- vi) □ Focusing dietary modifications and style.
- vii) □ To held widespread health care provider's awareness program regarding thyroid dysfunction.

In conclusion the health authorities should undertake more successful health education methods to improve the public and their caregivers awareness on the various aspects of thyroid dysfunction and the value of early detection and adequate control. Increased awareness and knowledge of thyroid condition would enable patients to become more drug-compliant, follow-up on a regular basis and distribute the right information to mass population of Bangladesh.

References

1. Taylor PN, Albrecht D, Scholz A, Gutierrez-Buey G, Lazarus JH, Dayan CM, et al. Global epidemiology of hyperthyroidism and hypothyroidism. *Nat Rev Endocrinol.* 2018;14(5):301-316.
2. Ford G, LaFranchi SH. Screening for congenital hypothyroidism: A worldwide view of strategies. *Best Pract Res Clin Endocrinol Metab.* 2014;28:175-187.
3. Yusuf HK, Rahman AM, Chowdhury FP, Mohiduzzaman M, Banu CP, Sattar MA, et al. Iodine deficiency disorders in Bangladesh, 2004-05: Ten years of iodized salt intervention brings remarkable achievement in lowering goitre and iodine deficiency among children and women. *Asia Pac J Clin Nutr.* 2008;17(4):620-628.
4. Ansari MA. Thyroid disorders in Bangladesh-past, present and future. *J Dhaka Med Coll.* 2014;23(2):151-152.
5. Paul AK, Miah SR, Mamun AA, Islam S. Thyroid disorders in Khulna district: A community based study. *Bangladesh Med Res Counc Bull.* 2006;32(3):66-71.
6. Akter F, Kamrul-Hasan AB, Ahmed EU, Selim S, Aalpona FZ, Emran MS et al. Thyroid Dysfunction and Autoimmunity in First Trimester of Pregnancy, Single Center Experience in Bangladesh. *Mymensingh Med J.* 2018;27(3):603-609.
7. Rasul C, Lucky S, Miah S, Moslem F. Incidence of Congenital Hypothyroidism in the Newborn of A Tertiary Hospital in Southern Bangladesh. *Bangladesh Journal of Child Health.* 2005;29(3):82-87.