

Retrospective Evaluation of Hypothyroidism Among Patient Visited in One Year Duration: An Institutional Based Study

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ABSTRACT

Background: Thyroid dysfunction is a common endocrine disorder affecting around 300 million people worldwide and it is presumed that more than half are unaware of their condition. The present retrospective study was conducted to analyse hypothyroidism among patient visited in one year duration.

Materials and Methods: The study was conducted among patients visited in one year duration in a tertiary care center. A structured questionnaire was used to obtain sociodemographic characteristics and variables related to symptoms of hypothyroidism. Pertinent finding/signs were also recorded after physical investigation. Serum level of thyroid hormones (TSH, T3, T4) were measured. The Data was entered and analysis was done using SPSS version 22.0.

Results: A total of 300 patients were recruited in the study, with mean age of 40.87 ± 15.22 SD years. Majority of the patients were female 245 (81.66%) while the left 55 (18.33%) were male. The euthyroidism found in 40.66%, subclinical hypothyroidism in 22% and hypothyroidism in 37.33% patients.

Conclusion: The present study concluded that subclinical hypothyroidism was found in 22% and hypothyroidism in 37.33% patients.

Keywords: Euthyroidism, Subclinical Hypothyroidism.


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Article History:

Received: 18-08-2020, Revised: 10-09-2020, Accepted: 29-09-2020

Access this article online

Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2020.6.5.020	

INTRODUCTION

Thyroid diseases are common problem in the population. This small gland located in the neck plays an important role in regulating metabolism, as well as in functioning of a whole range of organs and organ systems.¹ Thyroid gland secretes thyroid hormones which are essential for growth, neuronal development, reproduction and regulation of energy metabolism.² Thyroid diseases/disorders/dysfunction refer to benign or malignant condition affecting the structure and function of the thyroid gland that may present as a derangement of thyroid hormone secretion, thyroid enlargement or pain. Thyroid disease is a global health problem that can substantially impact well-being, as it is one of the most common endocrine disorder next to diabetic mellitus accounting around 30% to 40% of the endocrine disorders.^{3,4} The clinical state of hypothyroidism (then known as myxoedema) was described around 1870, and 10 years later it was recognised as being due to loss of function of the thyroid gland.⁵⁻⁸ In its clinical form, hypothyroidism is a relatively common condition, with an approximate prevalence of 2% in adult women and 0.2% in adult men.⁹ The clinical features of hypothyroidism are dependent on

the patient's age, the presence of other diseases, and the rate at which hypothyroidism develops.¹⁰ Hypothyroidism, both overt and subclinical, is common in women of reproductive age and during pregnancy, with frequencies ranging from 0.3% to 2.5%¹¹ and Hypothyroidism in pregnant women is commonly associated with Hashimoto's thyroiditis¹². The present retrospective study was conducted to analyse hypothyroidism among patient visited in one year duration.

MATERIALS AND METHODS

The study was conducted among patients visited in one year duration in a tertiary care center. Before the commencement of the study ethical approval was taken from the Ethical Committee of the institute and informed consent was taken from the patient. A structured questionnaire was used to obtain sociodemographic characteristics and variables related to symptoms of hypothyroidism. Pertinent finding/signs were also recorded after physical investigation. Serum level of thyroid hormones (TSH, T3, T4) were measured by electro-chemiluminescence immune assay

method. a. Euthyroid: refers to normal level of TSH (0.45–4.5 mIU/L), FT3 (2.3 –6.3 pmol/l), FT4(10.3–24.5 pmol/l). b. Subclinical Hypothyroidism: is an elevation in serum TSH (>4.5 mIU/L) with normal serum FT4 (10.3– 24.5 pmol/l) and FT3 (2.3

-6.3 pmol/l). c. Hypothyroidism is an elevation in serum TSH (>4.5 mIU/L) with low serum FT4 (24.5 pmol/l or FT3 >6.3 pmol/l) or both. The Data was entered, and analysis was done using SPSS version 22.0.

Table 1: Demographic characteristics

Parameter	N(%)
Gender	
Male	55(18.33%)
Female	245(81.66%)
Mean age (yrs)	40.87 ± 15.22

Table 2: Types of thyroid disorders among patients

Types of thyroid disorders	N(%)
Euthyroid	122(40.66%)
Subclinical Hypothyroidism	66(22%)
Hypothyroidism:	112(37.33%)
Total	300(100%)

RESULTS

A total of 300 patients were recruited in the study, with mean age of 40.87 ± 15.22 SD years. Majority of the patients were female 245 (81.66%) while the left 55 (18.33%) were male. The euthyroidism found in 40.66%, subclinical hypothyroidism in 22% and hypothyroidism in 37.33% patients.

DISCUSSION

The major disorders of thyroid gland are hypothyroidism and hyperthyroidism which have been reported in around 110 countries of the world and about 1.6 billion people at risk and need some form of iodine supplementation. Most cases of thyroid disorders are seen in Asia, Africa and Latin America.¹³

A total of 300 patients were recruited in the study, with mean age of 40.87 ± 15.22 SD years. Majority of the patients were female 245 (81.66%) while the left 55 (18.33%) were male. The euthyroidism found in 40.66%, subclinical hypothyroidism in 22% and hypothyroidism in 37.33% patients.

In a study, the overall prevalence of thyroid dysfunction was 24.7%.¹⁴

According to a study done by El Hassene Sidibe in sub-Saharan Africa, Women are mainly affected by thyroid diseases (94.2%), most often with euthyroid goiters (54.7%).¹⁵

Marwaha et al who reported a prevalence of sub-clinical hypothyroidism of 19.3%.¹⁶

The study of Jaikhani et al. who reported sub-clinical hypothyroidism with prevalence of 33%.¹⁷

Goichot et al. who reported 10.4% prevalence of subclinical hyperthyroidism.¹⁸

Subclinical hypothyroidism of moderate severity is associated with higher risk of heart failure and stroke in the younger population. Hypothyroidism has also been associated with nonalcoholic fatty liver disease, cancer mortality, arthritis, and kidney dysfunction but the causality in these situations is controversial.¹⁹

Although hyperthyroidism is a common endocrine disorder, frequency, and symptoms vary from one patient to another.

Report has been documented that clinical management of this disorder is largely rooted in expert opinion and personal experience.²⁰

CONCLUSION

The present study concluded that subclinical hypothyroidism was found in 22% and hypothyroidism in 37.33% patients.

REFERENCES

- Mazzaferri E. Management of a solitary Thyroid Nodule. *The New England Journal of Medicine*. 1993;329:553–9.
- Curling TB. Two cases of absence of the thyroid body, and symmetrical swellings of fat tissue at the sides of the neck, connected with defective cerebral development. *Med Chir Trans*. 1850;33:303–6.
- Fagge CH. On sporadic cretinism, occurring in England. *Med Chir Trans*. 1871;54:155–69.
- Gull WW. On a cretinoid state supervening in adult life in women. *Trans Clin Soc London*. 1874;7:180–5.
- Horsley V. The Brown lectures on pathology. The thyroid gland: its relation to the pathology of myxoedema and cretinism, to the question of the surgical treatment of goitre, and to the general nutrition of the body. *BMJ*. 1885;1:111–5.
- Maenhaut C, Christophe D, Vassart G (2000) Ontogeny, Anatomy, Metabolism and Physiology of the Thyroid. In Feingold KR, Anawalt B, Boyce A, et al. (eds.). *Endotext* [Internet]. South Dartmouth (MA): MDText.com, Inc.
- Vanderpump MP (2011) The epidemiology of thyroid disease. *Br Med Bull* 99(1): 39-51.
- Garmendia Madariaga A, Santos Palacios S, Guillén Grima F, Galofré JC (2014) The incidence and prevalence of thyroid dysfunction in Europe: a meta-analysis. *J Clin Endocrinol Metab* 99(3): 923-31.
- O. Koulouri, C. Moran, D. Halsall, K. Chatterjee, and M. Gurnell. Pitfalls in the measurement and interpretation of thyroid function

tests. *Best Practice & Research Clinical Endocrinology & Metabolism* 2013; 27(6): 745–62.

10. S. Mukherjee, S. Datta, P. Datta, A. K. Mukherjee, and I. Maisnam. A study of prevalence of primary hypothyroidism in recently diagnosed type 2 diabetes mellitus in a tertiary care hospital. *International Journal of Scientific Reports* 2015; 1(2): 105–12.

11. Ozdemir H, Akman I, Coskun S, Demirel U, Turan S, et al. (2013) Maternal thyroid Dysfunction and Neonatal thyroid Problems. *Int J Endocrinol* 2013: 987843.

12. Karbownik-Lewińska M (2013) HypoLd disorders and pregnancy. *thyroid Res* 6: A26.

13. Alam Khan, M. Muzaffar Ali Khan and Shamim Akhtar. Thyroid Disorders, Etiology and Prevalence. *Journal of Medical Sciences* 2002; 2(2): 89-94.

14. Nambiar V, Jagtap VS, Sarathi V, Lila AR, Kamalanathan S, et al. (2011) Prevalence and Impact of Thyroid Disorders on Maternal Outcome in Asian-Indian Pregnant Women. *J Thyroid Res*. Volume 2011; Article ID 429097.

15. Sidibe EH (2007) Thyroid diseases in sub-Saharan Africa. *Santé* 17: 33-39.

16. Marwaha RK, Tandon N, Ganie MA, Kanwar R, Sastry A, Garg MK, et al. (2012) Status of thyroid function in Indian adults: Two decades after universal salt iodization. *J Assoc Physicians India* 60: 32-36.

17. Jaikhani R, Ramachandrayya SA, Patil VS, Sameena (2015) A hospitalbased study of prevalence of thyroid dysfunction in Srinagar, Jammu and Kashmir state of India. *Int J Med Sci Public Health* 4(2): 151-154.

18. Goichot B, Caron P, Landron F, Bouée S (2016) Clinical presentation of hyperthyroidism in a large representative sample of outpatients in France: relationships with age, aetiology and hormonal parameters. *Clin Endocrinol (Oxf)* 84(3): 445-451

19. L. Chaker, A. C. Bianco, J. Jonklaas, and R. P. Peeters, "Hypothyroidism," *The Lancet*, vol. 390, no. 10101, pp. 1550–1562, 2017.

20. Helleman JP, Goraya TY, Jacobsen Gresh BJ. Incidence of heart failure after myocardial infarction. *Am J Epidemiol*. 2002;157:1101.

Source of Support: Nil.

Conflict of Interest: None Declared.

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Cite this article as: Anupam Sharma, Nirmalya Saha, Mahipal Singh Puri, Mridula Sharma. Retrospective Evaluation of Hypothyroidism Among Patient Visited in One Year Duration: An Institutional Based Study. *Int J Med Res Prof*. 2020 Sept; 6(5): 91-93. DOI:10.21276/ijmrp.2020.6.5.020