

Prevalence, knowledge, and awareness of thyroid disorders among young adult women population

Aarthi Muthukumar, Karthik Ganesh Mohanraj*

ABSTRACT

Introduction: Thyroid is the small gland located at the back of the neck and it performs many vitally important functions. Thyroid disorders are the most common type of endocrine disorders prevailing worldwide. Any dysfunction of this gland has profound impact on health and well-being. People affected by thyroid disorders often have inadequate knowledge of the nature of thyroid diseases, its complications, and related risk factors. **Materials and Methods:** A questionnaire-based survey was carried out among the adolescent and young adult female population of Saveetha Dental College to assess the knowledge, attitude, and awareness of thyroid disorders. A simple random sample was drawn to reach the required sample size of 86. The response was, therefore, estimated by personally collecting the completely filled questionnaire from the 86 samples. **Results:** Of 86 samples taken in for the survey, about 83% of the individuals were aware of the thyroid disorders and it was estimated that the syndrome was more prevalent among the female young adult population. **Conclusion:** It was found that the thyroid disorders are more common among the adult population than the younger and older groups as analyzed by this study. Furthermore, the existing knowledge of the effects and risk factors of thyroid disorder was adequate among young adult female population.

KEY WORDS: Awareness, Thyroid disorders, Thyroid gland, Thyroid hormone, Young adults

INTRODUCTION

Thyroid disorders are among the most prevalent of endocrine disorders. Their manifestations vary considerably from area to area and they are determined principally by the availability of iodine in diet.^[1] Hypothyroidism is the most common type of thyroid dysfunction.^[2] The prevalence of hypothyroidism in the developed country is around 4–5%.^[3] A study says that 42 million people suffer from thyroid disorders in India.^[4] Overall, the prevalence of thyroid disorder in India ranges from 3.9% to 5.4%.^[5,6] Some of the factors may be lack of awareness, lack of qualified physicians, and poor knowledge of the reliable sources of information. Any dysfunction of the thyroid has a markable impact on health and well-being.^[7,8] Thyroid disorders are believed to be common in India, as it is worldwide. Globally, thyroid disorders are continued to be one of the most underdiagnosed and neglected health conditions.^[9]

Women are more prone to develop hypothyroidism, especially during puberty, first menstruation, pregnancy, and during menopause.^[10] For the effective control of thyroid disorders and its success, it is essential that people's access to iodized salt should be ensured.^[11] In India, thyroid disorders are among the most common endocrine disorders. The prevalence of thyroid disorders depends on sex, age, geographical factor, and especially iodine intake. Deficiency in iodine intake can result in mental retardation, stillbirths, congenital anomalies, etc.^[12] A study shows that hypothyroidism can lead to morbidity from osteoporosis, hypercholesterolemia, cardiovascular, and neuropsychiatry disease in the population.^[13] During clinical assessment of thyroid dysfunction, patient may present with variety of manifestations involving major systems such as endocrine, cardiovascular, reproductive, gastrointestinal, and integumentary system.^[14]

The American Thyroid Association recommends that adults must be screened for thyroid disorders by measuring serum thyrotropin concentration every 5 years after 30 years of age.^[15] Hypothyroidism is of two types; primary which occurs due to the abnormality in the thyroid gland or it may be secondary

Access this article online

Website: jprsolutions.info

ISSN: 0975-7619

Department of Anatomy, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Saveetha University, Chennai, Tamil Nadu, India

*Corresponding author: Karthik Ganesh Mohanraj, Department of Anatomy, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences, Saveetha University, 162, Poonamallee High Road, Chennai - 600 077, Tamil Nadu, India. Phone: +91-9940545168. E-mail: karthikganesh.0446@gmail.com

Received on: 23-04-2019; Revised on: 26-06-2019; Accepted on: 28-07-2019

which occurs due to the hypothalamic or pituitary diseases.^[16] Primary hypothyroidism is termed as subclinical hypothyroidism, in which there is an elevated thyroid-stimulating hormone (TSH) concentration in the presence of normal serum free thyroxine and triiodothyronine concentration.^[17] Hyperthyroidism is a condition, in which there is an excessive production of thyroid hormone by the thyroid gland. Thyrotoxicosis is the case of excessive thyroid hormone levels due to any cause and thus, it includes hyperthyroidism.^[18]

A study suggests that the screening for thyroid disorders should be a part of routine health check in people after the age of 35 years, postmenopausal and premenopausal women, and pregnant women.^[19] There is a misconception of excessive weight gain and obesity with hypothyroidism and hyperthyroidism. Patients with primary hypothyroidism do not cause excessive weight gain.^[20] The purpose of the present study is to analyze the people affected by thyroid disorders in having adequate knowledge of the nature of thyroid diseases, its effects, complications, and related risk factors.

MATERIALS AND MATERIALS

A questionnaire-based survey was carried out among the adolescent and young adult population to assess the prevalence, knowledge, and awareness of thyroid

disorders and its effects. A simple random sample was drawn to reach the required sample size of 86. A questionnaire consisting of three sections was used:

- Questions based on the knowledge of the adolescent and young adult population
- Questions based on the attitude of the adolescent and young adult population toward thyroid disorders
- Question based on the awareness regarding the significance of systemic conditions related to individual health.

The responses were, therefore, estimated by personally collecting the completely filled questionnaire from 100 samples.

RESULTS

A total of 86 adolescent and young adult populations were assessed for the survey. The mean range of the individuals ranged from 16 to 24 years. The response of the questionnaire was, therefore, estimated. The overall prevalence and knowledge was only observed among 80% of the study samples. About 82.6% of people responded positively that they are aware of thyroid disorder and the remaining 17.4% responded in negative [Figure 1]. About 79.1% of female population were aware of the relationship between thyroid dysfunction and hypercholesterolemia and

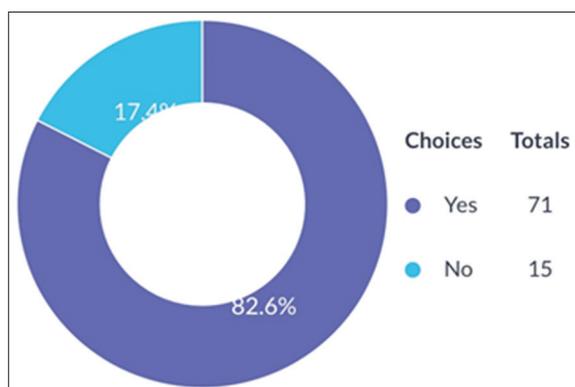


Figure 1: The response on the awareness of thyroid disorders among young adult female population

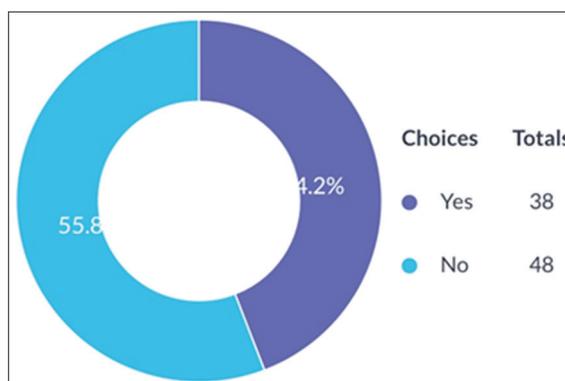


Figure 3: The response on the relation between irregular menstrual periods and thyroid dysfunction

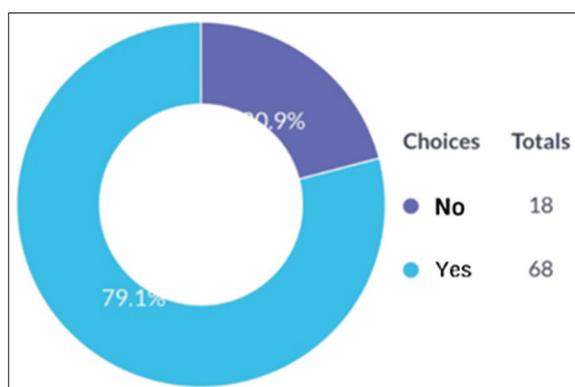


Figure 2: The response on the relation between thyroid dysfunction and hypercholesterolemia

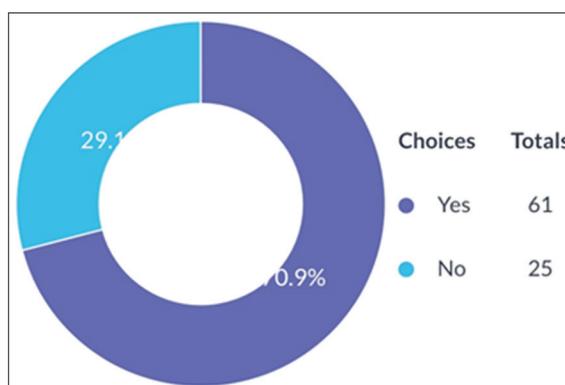


Figure 4: The responses on the significance of thyroid-stimulating hormone test

the remaining 20.9% were unaware [Figure 2]. Only around 44.2% of young adult females were aware that irregular periods may be the sign of thyroid dysfunction and the rest 55.8% were unaware of this condition [Figure 3]. About 70.9% were aware of the TSH test, whereas the remaining 29.1% were not aware of such test and its importance [Figure 4].

DISCUSSION

According to a study, of 250 females, only 49% knew about hypothyroidism and hyperthyroidism, and from the rest of the people, some has no idea about the hypothyroidism and hyperthyroidism and a few consider it as cancerous disease.^[21] According to the results of the present study, 83% of the adult female population are aware of the thyroid disorders, its risk factors, and complications. Furthermore, it is understood that this disorder was more common in adult female than in elder or smaller age groups.^[22]

Hypothyroidism can be satisfactorily treated with a customary day by day portion of levothyroxine to standardize serum TSH levels. Health condition, age, body weight, prescription, and diet may impact the ingestion of levothyroxine.^[23] The total impact of thyroid hormone substitution on TSH will be clear in just 6 months after treatment and may require further titrations in the recommended periods.^[24] When dosage and treatment are stabilized, patients require less regular clinical assessment and biochemical observations. By and large administration of hypothyroidism requires significant responsibilities from both the doctor and the patient.

CONCLUSION

From the above results, the prevailing knowledge of thyroid disorder was scattered up to 80% of the population. Furthermore, the existing knowledge of the effects and risk factors of thyroid disorder was adequate among young adult female population. Treatment and prevention for thyroid disorders lies on the fact is to create awareness among the general population to take more iodine content in their regular diet as essential supplement.

REFERENCES

1. Marwaha RK, Chopra S, Gopalakrishnan S, Sharma B, Kanwar RS, Sastry A, *et al.* Establishment of reference range for thyroid hormones in normal pregnant Indian women. *BJOG* 2008;115:602-6.
2. Unnikrishnan AG, Kalra S, Sahay RK, Bantwal G, John M, Tewari N, *et al.* Prevalence of hypothyroidism in adults: An epidemiological study in eight cities of India. *Indian J Endocrinol Metab* 2013;17:647-52.
3. Ahmad N, Panthari M, Gupta A, Chandra P, Nafees S. Prevalence of hypothyroidism among patients of Meerut, Uttar Pradesh: A hospital based study. *Int J Med Sci Public Health* 2013;2:539-42.

4. Brahmabhatt SR, Brahmabhatt RM, Boyages SC. Impact of protein energy malnutrition on thyroid size in an iodine deficient population of Gujarat (India): Is it an aetiological factor for goiter? *Eur J Endocrinol* 2001;145:11-7.
5. Unnikrishnan AG, Menon UV. Thyroid disorders in India: An epidemiological perspective. *Indian J Endocrinol Metab* 2011;15:S78-81.
6. Shah SN, Joshi SR. Think Thyroid. *J Assoc Physicians India* 2011;59:15-20.
7. Kannan S, Mukundan L, Mahadevan S. Knowledge, awareness and practices (KAP) among patients with hypothyroidism attending endocrine clinics of community hospitals in Chennai. *Thyroid Res Pract* 2010;7:11.
8. Williams MV, Baker DW, Parker RM, Nurss JR. Relationship of functional health literacy to patients' knowledge of their chronic disease. A study of patients with hypertension and diabetes. *Arch Intern Med* 1998;158:166-72.
9. Singh A, Sachan B, Malik NP, Sharma VK, Verma N, Singh CP. Knowledge, awareness and practices (KAP) among patients with thyroid swelling attending cytology clinic in a medical college, Meerut. *Sch J Appl Med Sci* 2013;1:793-5.
10. Pandav CS, Karmarkar MG, Kochupillai N. Recommended levels of salt iodation in India. *Indian J Pediatr* 1984;51:53-4.
11. Greaves JP, Alnwick D. The role of international agencies. In: Hetzel BS, Pandav CS, editors. *The Conquest of Iodine Deficiency Disorders*. New Delhi: Oxford University Press; 1994. p. 169-79.
12. Chaturvedi S, Sanjay M, Gupta P. Assessment of iodine induced Disorders. *J Indian Med Assoc* 2006;94:127-35.
13. Hitman S, Kelly FC. Prevalence of congenital hypothyroidism. *Indian J Endocrinol* 1999;45:245-9.
14. Nimmy NJ, Aneesh PM, Narmadha MP, Udipi RH, Binu KM. A survey on the prevalence of thyroid disorder induced by demography and food habits in South Indian population. *Indian J Pharm Pract* 2012;5:49-52.
15. Abalovich M, Gutierrez S, Alcaraz G, Maccallini G, Garcia A, Levalle O, *et al.* Overt and subclinical hypothyroidism complicating pregnancy. *Thyroid* 2002;12:63-8.
16. Mallik AK, Anand K, Pandav CS, Achar DP, Lobo J, Karmarkar MG, *et al.* Knowledge beliefs and practices regarding iodine deficiency disorders among the tribals in Car Nicobar. *Indian J Pediatr* 1998;65:115-20.
17. Desai MP. Disorders of thyroid gland in India. *Indian J Pediatr* 1997;64:11-20.
18. Jorgensen P, Langhammer A, Krokstad S, Forsmo S. Is there an association between disease ignorance and self-rated health? The HUNT study, a cross-sectional survey. *BMJ Open* 2014;4:e4962.
19. Sethi B, Khandelwal D, Vyas U. A cross-sectional survey to assess knowledge, attitude, and practices in patients with hypothyroidism in India. *Thyroid Res Pract* 2018;15:15-22.
20. Singh A, Sachan B, Malik NP. Knowledge, awareness and practices (KAP) among patients with thyroid swelling attending cytology clinic in a medical college, Meerut. *Sch J Appl Med Sci* 2013;1:793-5.
21. Marwaha RK, Tandon N, Garg MK, Desai A, Kanwar R, Sastry A, *et al.* Thyroid status two decades after salt iodization: Country-wide data in school children from India. *Clin Endocrinol (Oxf)* 2012;76:905-10.
22. Leung AS, Millar LK, Koonings PP, Montoro M, Mestman JH. Perinatal outcome in hypothyroid pregnancies. *Obstet Gynecol* 1993;81:349-53.
23. Chakraborty I, Mazumdar P, Chakraborty PS, Chattopadhyay G, Bhowmick K. Iodine deficiency disorder among pregnant women in a tertiary care hospital of Kolkata, India. *Southeast Asian J Trop Med Public Health* 2010;41:989-95.
24. Canaris GJ, Tape TG, Wigton RS. Thyroid disease awareness is associated with high rates of identifying subjects with previously undiagnosed thyroid dysfunction. *BMC Public Health* 2013;13:351.

Source of support: Nil; Conflict of interest: None Declared