

Analysis of Knowledge and Awareness of Thyroid and Its Disorders among Students of Rural South Karnataka

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Abstract

In India it has been estimated that about 42 million people suffer from thyroid diseases. The prevalence of Thyroid gland disorders depend on age, sex, ethnic and geographical factors, especially on intake of iodine. Several studies have been already assessed the knowledge regarding thyroid gland among general population with or without thyroid disorder. However there is paucity of information about the thyroid knowledge among school students. Hence we conducted a study to assess the knowledge and awareness of thyroid and its disorder among students of rural area. An Observational Cross sectional study was conducted at Adichunchanagiri residential school, using random sampling, 50 students of age group 13-17 Yrs, who agreed to give the written informed consent have been considered as study-population and those who were not willing to participate in the study were excluded from the study. In the present study, students had an average knowledge about thyroid gland position and its importance. About 44% of the study population gave correct answer about the location of the thyroid gland and 54% gave correct answer about the importance of the thyroid gland in the body. With respect to thyroid gland function, study participants had very poor knowledge. 46% of the study population believe that thyroid gland function is only to regulate the body temperature. Increasing awareness of the thyroid as well as the common conditions that impact it is the first step in achieving better health for all. Our study findings reveal that the study population had an average knowledge regarding thyroid and its associated disorders. Furthermore, information about thyroid gland, its function and its disorders should be included in the curriculum of schools, colleges, and universities.

Keywords: Knowledge, Awareness, Thyroid Disorders, Students.

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INTRODUCTION

Thyroid disease is the most common endocrine disorder worldwide, which affects the function of the thyroid gland. In India it has been estimated that about 42 million people suffer from thyroid diseases [1]. The prevalence of Thyroid gland disorders depend on age, sex, ethnic and geographical factors, especially on intake of iodine. The thyroid gland is located at the front of the neck and produces thyroid hormones that regulate energy use, infant and childhood development [2]. There are five general types of thyroid disease, each with their own symptoms. A person may have one or different types at the same time. The five groups are:

- Hypothyroidism (low function) caused by not having enough free thyroid hormones
- Hyperthyroidism (high function) caused by having too much free thyroid hormones

- Structural abnormalities, most commonly a goiter (enlargement of the thyroid gland)
- Tumors which can be benign (not cancerous) or cancerous
- Abnormal thyroid function tests without any clinical symptoms (subclinical hypothyroidism or subclinical hyperthyroidism) [1, 2].

Any type of thyroid dysfunction will have profound impact on health and well-being. Meanwhile it is continued to be one of the most neglected and under-diagnosed chronic health issue. This could be due to lack of awareness and knowledge regarding thyroid gland and its associated disorders [3]. At present primary health education for the school children is an essential component to improve knowledge and change behavior which helps in the early diagnosis and treatment of thyroid disorders. Several studies have been already assessed the knowledge regarding thyroid

gland among general population with or without thyroid disorder [4-6]. However there is paucity of information about the thyroid knowledge among school students. Hence we conducted a study to assess the knowledge and awareness of thyroid and its disorder among students of rural area.

METHODOLOGY

An Observational Cross sectional study was conducted in Adichunchanagiri residential school, using random sampling, 50 male students of age group 13-17 Yrs, who agreed to give the written informed consent have been considered as study-population and those

who were not willing to participate in the study were excluded from the study.

A detailed questionnaire was used to collect information on the general knowledge, causes, symptoms and treatment of thyroid disorders. Filled questionnaires were reviewed for completeness before data entry and the data collected were analyzed through percentages and frequencies in which the data were presented in table formats, which were obtained using Excel and using SPSS (Statistical Package for Social Science).

RESULTS

Table-1: General Knowledge about Thyroid Gland

Sl. No	Questions	Answer
1.	The thyroid gland	
	a) Lies in front of the neck	22 (44%)
	b) Important for metabolism and all body functions	27(54%)
	c) Important endocrine gland lies in front of the trachea	1(2%)
	d) I don't know	0
2.	Function of the thyroid gland is	
	a) To regulate body temperature	23(46%)
	b) To decrease heart rate and blood pressure	6(12%)
	c) To lower the serum cholesterol level	8(16%)
	d) I don't know	13(36%)

Table-2: Symptoms and Common Myths Regarding Thyroid Disorder

Sl. No	Questions	Yes	No	I don't know
1.	Thyroid disorders can be treated by the use of iodized salt	41(82%)	9(18%)	-
2.	Cabbages, cauliflowers, soya should be avoided	36(72%)	14(28%)	-
3.	Thyroid medications should be stopped during pregnancy	20(40%)	20(40%)	10(20%)
4.	Thyroid medications can be stopped once thyroid tests are normal	6(12%)	42(84%)	2(4%)
5.	Is hypo/hyperthyroidism a genetic disease	26(52%)	20(40%)	4(8%)
6.	Is radioactive iodine one of the therapeutic options	13(26%)	17(34%)	20(40%)
7.	Does daily diet affect thyroid function?	23(46%)	10(20%)	17(34%)
8.	About Symptoms of thyroid disorder			
	a) Weight gain/ lose	26(52%)	20(40%)	4(8%)
	b) Menstrual cycles will be normal	14(28%)	36(72%)	-
	c) Excessive sensitivity to heat/cold	37(74%)	13(26%)	
	d) Difficulty in remembering or confusion or lack of concentration	26(52%)	20(40%)	4(8%)
	e) Constipation or diarrhea from long time	20(40%)	20(40%)	10(20%)

DISCUSSION

This study was conducted to assess the knowledge among the school children with respect to thyroid location, the dietary effects on the thyroid gland, symptoms of thyroid disease and treatment.

In the present study, students had an average knowledge about thyroid gland position and its importance. About 44% of the study population gave correct answer about the location of the thyroid gland and 54% gave correct answer about the importance of the thyroid gland in the body. With respect to thyroid gland function, study participants had very poor

knowledge. 46 % of the study population believe that thyroid gland function is only to regulate the body temperature. A study by Rai *et al.*, [3] which included 250 female participants in the survey, only 54.80% females knew that thyroid is normal gland in our body. Other 18.80% considered thyroid as disease. And remaining 26.40% did not have any idea about thyroid. Another study conducted on 200 thyroid patients by Singh A *et al.*, [4] only 120 patients (60%) had correct knowledge that thyroid is normal gland in neck.

In the present study the participants had good knowledge regarding diet and its importance in thyroid

disorder, 82% of the study population gave correct answer about the effect of iodized salt on thyroid disorders. 72% and 46 % population had fair knowledge about food items that should be avoided routinely and effect of daily diet on thyroid function respectively. The 40% of the study population were in a wrong impression that thyroid medications should be stopped during pregnancy and however another 12% population perceived that thyroid medications can be stopped once thyroid tests are normal. These findings were in accordance to the study by Rai et al and Singh *et al.*, [3, 4]

About 52% of the study population knew that, hypo/hyperthyroidism as a genetic disease. Further 40% of the study population had no idea about effect of radioactive iodine on the thyroid disease. About half of the study population had good knowledge about symptoms of thyroid disorder such as weight gain/ lose, menstrual cycles, excessive sensitivity to heat/cold and constipation or diarrhoea

Pradeep K *et al.*, [5] conducted a study on known cases of Hypothyroidism and it was reported that the knowledge and awareness related to hypothyroidism was poor in majority of participants even though most of the study participants were well educated. Lack of knowledge among participants in the present study was attributed due to their low concern, not much exposure about the thyroid gland and its associated disorder in their routine curriculum, not using available electronic media. Thus, these participants need to receive more inputs from the health-care system.

CONCLUSION

Increasing awareness of the thyroid as well as the common conditions that impact it is the first step in achieving better health for all. Our study findings reveal that the study population had an average knowledge regarding thyroid and its associated disorders. Education should be provided at all levels and should include doctors, policy makers and health workers.

Furthermore, information about thyroid gland, its function and its disorders should be included in the curriculum of schools, colleges, and universities.

Conflict of interest: None

Ethical clearance: obtained from institutional ethical committee

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