



A CROSS SECTIONAL STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICES AMONG PATIENTS WITH HYPOTHYROIDISM IN A TERTIARY CARE HOSPITAL AT PONDICHERRY

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ABSTRACT

Objective: The main objective of the study was to assess the knowledge, attitude and practices (KAP) among hypothyroid subjects. **Methods:** This was a questionnaire based KAP cross sectional study among 100 subjects who fulfilled the inclusion criteria in a tertiary hospital after obtaining consent and ethical clearance. **Results:** Among the 100 subjects the mean age was 41.42 ± 14.6 with a female predominance of 87%. The educational status was collected and it was noticed that majority of the subjects, 62% were literates and rest were illiterates. 60% had correct knowledge about the shape of the thyroid gland. Knowledge about the effects of hypothyroidism like weight gain was most correctly identified by 79% subjects 70%, 69%, and 60% of subjects could correctly identify fatigue, muscle aches/pain, and dry skin, respectively. Only 48% and 43% correctly identified cold intolerance and constipation respectively. 48% of subjects had no knowledge that iodine deficiency may cause hypothyroidism. 85% subjects had knowledge that hypothyroidism is treatable. 64%–92% had agreement on all the statements in the attitude domain. 91% complied with their medications. Nevertheless, 30.6% responded that they occasionally skip medications. Regular TSH levels were done by 81.6% of subjects. A good number of subjects (55.8%) did neither look for information from online sources neither did they (22.7%) seek additional information from their doctors/medical personals. **Conclusion:** Satisfactory results were obtained whereas the need to increase awareness and to educate the patients in all the aspects about hypothyroidism is very much necessary.

KEYWORDS: Knowledge, Attitude, Practice, Hypothyroidism and Awareness.

INTRODUCTION

Hypothyroidism is arguably the commonest endocrine disorder globally. The incidence of hypothyroidism depends on age, geography and the most eminent and influential factor being iodine intake.^[1] Worldwide the prevalence of thyroid disease is around 4-5%^[2] and the prevalence of hypothyroidism in India is 11%^[3] When thyroid hormone does not meet the metabolic need of the body it can lead to hypothyroidism.^[4] Hypothyroidism can be primary/secondary.^[4]

Nonspecific signs and symptoms of hypothyroidism is seen and usually confused with other clinical conditions^[5] which can also result in missing a diagnosis. Females who have hypothyroidism present with menstrual irregularities and infertility. The usual signs and symptoms are weight gain, loss of hair, lethargy, dry/mild scaled skin and constipation.^[6,7]

Knowledge, attitude and practices (KAP) being a quantitative tool is reliable method that can be used for a predefined population. The main objective is to explore

the misconception and level of knowledge and what changes can be brought and imparted to the subjects. The patient's level of knowledge and awareness regarding the disease and treatment is vital. A couple of studies show the importance of improving the knowledge of the patient and the benefits of treatment compliance.^[8,9] The present study was undertaken to assess KAP among patients with primary hypothyroidism who have been diagnosed and undergoing treatment for primary hypothyroid.

AIM

To assess the knowledge, attitude and practices among subjects with hypothyroidism in a tertiary care hospital at Pondicherry.

MATERIAL AND METHODS

Study design: Cross sectional study

Study setting: The study was conducted in the Department of General Medicine at Aarupadai Veedu Medical College and Hospital, Puducherry.

Study population: Subjects with hypothyroidism coming to AVMC hospital as outpatient and in-patient.

Study duration: June 2020 to December 2020.

Inclusion Criteria

1. All patients diagnosed with hypothyroidism or on treatment for hypothyroidism above 18 years of age among both sexes.
2. Participants who are willing for study with informed consent

Exclusion Criteria

1. Patients with hyperthyroidism
2. Patients using Amiodarone
3. Patients who are less than 18 years of age.
4. Patients unwilling for consent.

Sample Size

Using convenient sampling technique all hypothyroid patients who reported during the study period was considered. The sample size worked out to 100 subjects

Study procedure

Patients with or on treatment for hypothyroidism above 18 years of age were included in this study. After obtaining informed consent, demographic and medical data of the patients were collected by obtaining detailed history, clinical examination and routine investigations. T3, T4 and TSH levels were noted for all the participants.

Data collection tools

All the relevant parameters were documented using a standard and structured KAP proforma. The proforma contained the following details

1. Demographic parameters – like age, gender and educational status.
2. Knowledge (20 questions)
3. Attitude (5 questions)
4. Practices (8 questions)
5. Medical illness – Fever and other comorbid illness
6. All Baseline parameters were checked (Pulse, BP, height, weight, BMI)
7. Clinical examination findings

Ethical Issues

Ethical clearance was obtained from the Institutional human ethical committee. Informed consent was obtained from each study participant, after explaining the risks and benefits involved in the study and voluntary nature of the participation, in a language participant could understand. Confidentiality of the study participants was maintained throughout the trial conduction and dissemination of the study results.

Data entry and analysis

The collected data was coded, entered into Microsoft excel work sheet and exported to SPSS. Data was analyzed using SPSS version 21. Data is presented as

percentage in categories and then presented as tables. Fisher test for correlation was used for test of significance.

RESULTS

A total of 100 subjects were included in the study. The demographic distribution showed the mean age to be 41.42 ± 14.6 with the minimum age being 23 years and maximum was 82 years. Females were higher than males which were 83 and 17 respectively. The educational status of the subjects were collected so as to ascertain the level of KAP were 38 were illiterates, 30 had primary education, 18 studied up to 12th standard, 12 were graduates and only 2 were post graduates (table 1).

Table 2 shows the response given with regard to knowledge. A good number of subjects (60) had correct knowledge about the shape of the thyroid gland. Knowledge about the effects of hypothyroidism like weight gain was most correctly identified by 79% subjects, followed by 70%, 69%, and 60% of subjects could correctly identified fatigue, muscle aches/pain, and dry skin, respectively were the symptoms of hypothyroidism. Only 48% and 43% correctly identified cold intolerance and constipation respectively as manifestations. Swelling in the neck was correctly identified by 57% of subjects. A recognizable number of subjects had incorrect/no knowledge about the clinical manifestations of menstrual irregularity (40%) and depression (49%) in hypothyroidism. Two thirds (60%) of the subjects did not know about the increased risk of hypothyroidism during pregnancy and 58% of subjects were not aware that thyroid disorders may be hereditary. Most of the subjects (81%) were aware about the diagnosis by testing thyroid stimulating hormone (TSH), but 56% and 47% of subjects had no knowledge about the increased levels of TSH and low thyroid hormone levels in hypothyroidism. Further 48% of subjects had incorrect/no knowledge that iodine deficiency may cause hypothyroidism. 85% subjects had knowledge hypothyroidism is treatable and 15% had no knowledge. On the other hand 15% subjects were sure enough that alternative medicines are not useful in treating hypothyroidism. There was a significant association ($p < 0.001$) between knowledge and educational status.

Table 3 shows 64%–92% had agreement on all the statements in the attitude domain. Highest agreement (92%) was found for “treatment for hypothyroidism should be initiated after consultation with a physician only.” However, 20% and 29% of subjects did not agree that pregnant and family members should be tested for hypothyroidism. 64% and 79% have agreed a person above the age of 35 years should get tested frequently and females are at a higher risk of developing hypothyroidism respectively. There was a significant association between the level of education and attitude/level of concern.

Majority of the subjects (91%) complied with their medications. Nevertheless, 30.6% responded that they occasionally skip medications. Regular TSH levels were done by 81.6% of subjects. 1/3rd (31.2%) responded they were taking other medications along. A good number of

subjects (55.8%) did neither look for information from online sources neither did they (22.7%) seek additional information from their doctors/medical personals. Just less than half of the subjects (49.6%) did not avoid cabbage, cauliflower, or soya.

Table 1: Demographic distribution.

Age	Frequency
Mean age \pm SD	41.42 \pm 14.6
Minimum & maximum	23 & 82
Sex	
Males	13
Females	87
Educational status	
Illiterate	38
Primary school	30
Secondary school	18
Graduate	12
Post graduate	2

Table 2: Details based on knowledge domain

Knowledge	Correct answer	Incorrect	Don't know
Thyroid gland is a butterfly-shaped gland, located in the neck	60	8	32
Hypothyroidism is a medical condition due to low-thyroid hormone levels	53	21	26
Hypothyroidism is not related to increased TSH levels	47	19	37
Hypothyroidism may cause cold intolerance	48	20	32
Hypothyroidism may cause dry skin	60	21	19
Hypothyroidism may cause fatigue	70	10	20
Hypothyroidism may cause muscle aches/pain	69	11	20
Hypothyroidism may cause constipation	43	22	35
Hypothyroidism may cause weight gain	79	11	10
Hypothyroidism may cause abnormal menstruation	60	5	35
Iodine deficiency in diet may lead to hypothyroidism	52	11	37
Patients with hypothyroidism may be at an increased risk of having depression	51	15	34
Patients with hypothyroidism might have more risk of having increased cholesterol levels	31	18	51
Thyroid disorders does not run in families	42	24	34
Patients with swelling or abnormality in the neck may be suffering from hypothyroidism	57	17	26
Certain medications may increase the risk for developing hypothyroidism	27	20	53
Hypothyroidism does not occur in pregnancy	40	25	35
Hypothyroidism is diagnosed by measuring TSH levels in blood	81	6	13
Hypothyroidism is treatable	85	8	7
Alternative forms of medicine, such as Ayurveda and homeopathy, may be useful to treat hypothyroidism	15	41	44
Knowledge * Educational status			
p<0.001			

Table 3: Details based on attitude of the subjects.

Attitude	
Women are at a greater risk of developing hypothyroidism and should be tested at regular intervals for hypothyroidism	
Strongly agree	25
Agree	54
Neutral	14
Disagree	5
Strongly disagree	2
People above the age of 35 years should be tested frequently for hypothyroidism	
Strongly agree	16
Agree	48
Neutral	27
Disagree	6
Strongly disagree	3
Pregnant women should be tested for hypothyroidism Strongly agree	
Strongly agree	37
Agree	43
Neutral	18
Disagree	2
Strongly disagree	0
People with relatives/family members diagnosed with hypothyroidism should be tested for hypothyroidism	
Strongly agree	22
Agree	50
Neutral	18
Disagree	11
Strongly disagree	0
Treatment for hypothyroidism should be initiated after consultation with a physician only	
Strongly agree	45
Agree	47
Neutral	7
Disagree	1
Strongly disagree	0
Level of education * Attitude (overall)	
p<0.001	

Table 4: Details of practice among the subjects.

Attitude	Yes	No
Do you take your medication for hypothyroidism daily?	91%	9%
Do you miss any doses of your medication for hypothyroidism?	30.6%	69.4%
Do you take your medication 30 - 60 min before breakfast on empty stomach?	93.4%	6.6%
Do you take your thyroid medicine with any other medicines?	31.2%	68.8%
As advised by your physician, do you get your TSH level tested regularly?	81.6%	18.4%
Do you look for information on hypothyroidism on the internet/smartphone?	44.2%	55.8%
Did you ask your doctor for more information/ counseling on how to manage hypothyroidism?	77.3%	22.7%
Do you avoid eating cabbage, cauliflower, and soya?	49.6%	50.4%

DISCUSSION

This KAP survey composed of 13 male and 87 females. The mean age was 41.42±14.6 years. Study by BipinSethi, Deepak K et al^[10] showed the mean age to be 43.0±13.58 years with female predominance. Thyroid disorders are more likely to occur in females.^[11,12] More than half (68%) of the population were either illiterate or

studied up to primary school were as Bipin S. Deepak k et al^[10] showed more than half of the subjects were postgraduates. KAP of a person can influence the perceptions and management of the disease. Hypothyroidism can be decently treated with a regular daily dose of levothyroxine to regularize serum TSH levels. The complete effect of thyroid hormone

replacement on TSH is noticeable after 6–8 weeks after treatment initiation and may also require further tapering in the dosage. Overall management of hypothyroidism requires equal devotion from the physician and by the patient. The study showed that 60% of patients had correct knowledge about the shape of the thyroid gland. Poor knowledge was seen in 15% regarding the risks of untreated hypothyroidism may interfere with assent and treatment.

Half of the patients (51%) were not aware that cholesterol levels might increase because of hypothyroidism and with Levothyroxine therapy caters in reduction of total cholesterol levels after hypothyroid treatment.^[14,15] Patients need to be educated on diet, lifestyle changes and importance of daily medication and vanity of alternate medicines.

Changes in thyroid hormones that occur during pregnancy might resolve but, in most cases there is no cure for hypothyroidism. This justifies for a lifelong commitment to treatment. Symptoms are non-specific and will likely overlap with other disease conditions. Fatigue is the most common symptom and may be often misleading. Although 70%–79% of subjects had good knowledge about weight gain, fatigue, and muscle aches. Knowledge of disease symptoms is very much needed for patients to identify treatment effects, disease progression and recount the clinical experience to the treating physician during follow-up visits.

Minuscule knowledge about the importance of the thyroid function test will lead to abstinence in routine laboratory investigation. More than half of the subjects (58%) were unaware of the genetic predisposition which might be the reason for not getting their family members tested. 60% of patients were not bothered about hypothyroidism in pregnancy because they were not aware that hypothyroidism could occur in pregnancy. Complications in pregnancies with untreated hypothyroidism are complex and with increases maternal morbidity, perinatal morbidity, and mortality.^[16]

Overall the present study suggests that although patients were better aware of symptoms they were less aware about the risks associated, importance of regular laboratory investigations and dietary changes. Compliance to regular treatment and thyroid function testing can be determined only if patients are made aware the consequences of the disease. This can be emphasized among patients by large scale awareness and national health programs. Close to 77% of the patients looked for information from health-care personals rather than the Internet. This stresses the need for counseling by physicians and also increases the consultation time to educate patients.

This study has identified the gaps that need to be bridged to improve the KAP of hypothyroid patients a robust

strategy to target mass awareness at the regional and national levels.

CONCLUSION

The results obtained from this study were satisfactory but high emphasis needs to be done with regard to educating the patients through awareness and the already established health programs.

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