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DESCRIPTIVE STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING HYPOTHYROIDISM AMONG WOMEN IN, A.C.S MEDICAL COLLEGE AND HOSPITAL, CHENNAI

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ABSTRACT

Worldwide, prevalence of spontaneous hypothyroidism is between 1 and 2%, and it is 10 times more common in women than in men. (Vanderpump 2014). In India, Population-based study done in Cochin on 971 adult subjects revealed that the prevalence was higher in women (11.4%), when compared with men, in whom the prevalence was 6.2%. (Unnikrishnan 2011). In Tamilnadu, A total of 1292 subjects were screened of whom 161 subjects (12.5%) had abnormal TSH. (Velayutham 2015) .Assess the Knowledge, Attitude and Practice regarding Hypothyroidism among women.Find the Co-relation between Knowledge, Attitude and Practice regarding Hypothyroidism among women.Find the association between the Knowledge, Attitude and Practice regarding Hypothyroidism among women with their demographic variables.A Descriptive study was conducted over a period of 3-10-2018 to 29-10-2018 to assess knowledge, attitude and practice regarding Hypothyroidism among Women from A.C.S medical college and hospital, By using purposive Sampling technique total 50 samples, 2 to 3 samples visited the OPD every day . The data was collected using interview techniques with a questionnaire to assess Knowledge, Five point likert scale to assess the level of attitude, check list to assess the level of practice. At the end of the data collection information booklet was given to the study participants, the data gathered were analyzed by descriptive and inferential statistics and interpretation were made on the basis of the objectives of the study. With regard to Level of Knowledge 17(34%) had Inadequate Knowledge, 30(60%) had Moderately Adequate Knowledge, 3(6.0%) had Adequate Knowledge. Level of Attitude 1(2.0%) had Not Concerned, 13(26.0%) had Quite Concerned, 36(72.0%) had Extremely Concerned. Level of Practice 17(34.0%) had Inadequate, 24(48.0%) had Moderately Adequate, 9(18.0%) had Adequate. The study concluded that majority 30% of women had moderately adequate knowledge, 36% of women had extremely concerned of attitude,24% of women had moderately adequate level of practice. The results can help the women with hypothyroidism understand various aspects of hypothyroidism management and follow up .It is the responsibility of the nurses to create understanding on the disease to reduce the complication related to hypothyroidism

KEYWORDS: Knowledge, Attitude, Practice, Hypothyroidism.

INTRODUCTION

The endocrine system has a pivotal role in a healthy, functioning human body. Thyroid disorders are the most common among all endocrine diseases in India. The lack of the production of thyroid hormones by the thyroid glands is described by hypothyroidism. Hypothyroidism is more frequent in women. Worldwide, the most common cause of hypothyroidism is iodine deficiency. Statistics suggest that 1 in 50 women and 1 in 1000 men will develop symptoms of hypothyroidism among 42 million people are suffering with thyroid problems in India.(**Cameron AJ, 2015**).

OBJECTIVES

- Assess the Knowledge, Attitude and Practice regarding Hypothyroidism among women.
- Find the Co-relation between Knowledge, Attitude and Practice regarding Hypothyroidism among women.
- Find the association between the Knowledge, Attitude and Practice regarding Hypothyroidism among women with their demographic variables.

Research Hypotheses

- H1:There will be a significant relation between the knowledge, attitude and practice, regarding hypothyroidism among women at 0.05 level of significance
- H2:There will be a significant association between the knowledge, attitude, and practice regarding hypothyroidism among women with their selected variables at 0.05 level of significance

METHODOLOGY

Research Approach

In this study quantitative approach is used to assess knowledge, attitude and practice regarding Hypothyroidism among
Women in A.C.S Medical College and Hospital, Chennai.

Setting of the Study

The study was conducted in A.C.S Medical College and Hospital .The setting has been chosen on the basis of feasibility of adequate sample and cooperation of people. The hospital has 650 beds and is a multispecialty Hospital, which includes 24 emergency service Medical ward, Surgical ward, Intensive Care Unit, Gynecology ward. The hospital's Out Patient Department schedule is between 9 am and 3 pm. About 70 women attend medical outpatient department with hypothyroidism in a month in the hospital. According to the hospital census, 30 women are admitted to the in-patient department with hypothyroidism per month.

The tool used for the data collection consists of four parts- Part I, Part II, Part III and Part IV

Part I – Demographic and Clinical variables Age of women, Marital status, Level of education, Religion, Residence, Occupational status, Monthly income, Family history of hypothyroidism, Sources of information, Duration of illness, Baseline TSH at the time of diagnosis, Recent TSH level, Any other medical conditions, BMI, Medication used, Duration of medication used, Adherence to Thyroxin - Number of missed doses in the last month.

Part II – Questionnaire to assess the level of knowledge on Hypothyroidism prepared by investigator in the following aspects Anatomy and physiology of thyroid gland -8 Questions• Definition of hypothyroidism -3 Questions• Causes of hypothyroidism -2 Questions• Risk factors of hypothyroidism -2 Questions• Diagnostic evaluation of hypothyroidism-3 Questions• Clinical manifestation of hypothyroidism -9 Questions• Management of hypothyroidism-7 Questions• Complication of hypothyroidism-1Question• It consists of 35 items each correct answer carries one mark and wrong answer carries zero mark. And the score will be given as.

S.N0	Rating	Raw score	Percentage Intervals
1.	Adequate Knowledge	1-11	3%-31%
2.	Moderately adequate Knowledge	12-23	34%-66%
3.	Inadequate Knowledge	24-35	69%-100%

Part III - Five point likert scale to assess the level of attitude There are totally 10 questions. The scoring was done as follows. 5-Strongly agree 4-Uncertain 3-Strongly disagree 2-Agree 1-Disagree Reverse scoring was done for the questions no 5,7,8. and it is interpreted as

S.N0	Rating	Raw score	Percentage intervals
1.	Extremely concerned	8-10	80%-100%
2.	Quite concerned	4-7	40%-70%
3.	Not concerned	1-3	10%-30%

Part IV –Check list to assess the level of practice on hypothyroidism It consists of checklist with 10 items in Yes or No pattern. The correct answer was given a score of One and an incorrect answer Zero and it is interpreted as.

S.N0	Rating	Raw score	Percentage intervals
1.	Adequate	1-3	10%-30%
2.	Moderately adequate	4-7	40%-70%
3.	Inadequate	8-10	80%-100%

Ethical Consideration

- Confidentiality and anonymity of subjects was maintained
- A written consent was obtained from the participants regarding their willingness to participate in the study.

Reliability of the Study Instrument

The realiability of the tool was elicited by Reliability for Knowledge by Cronbach's Alpha Medthod: r' = 0.80 Reliability for Attitude by Interrater method: r' = 0.86 Reliability for Practice by Interrater method r'=0.88 Sample size of 50.

Data Collection Procedure

Data was collected after getting permission from Head of the department of medicine. Data collection period from 3-10-2018 to 29-10-2018.Ethical clearance was obtained from ethical committee. Study subjects were selected and the purpose of the study was explained to them. Informed written consent was obtained .The subjects were selected using Purposive Sampling technique. After recruiting the subject for the study, Socio demographic details were collected from the subjects. Data was collected in Medical OPD. Approximately 2-3 patient visited the OPD every day .Before visiting the doctor, they were asked to sit in the waiting area. During their waiting time the investigator selected the sample based on the inclusive criteria. The data was collected using interview techniques with a questionnaires to assess Knowledge, Attitude and Practice regarding Hypothyroidism among Women. Duration of data collection was 30 minutes for each participants. Data collection was obtained from 2 to 3 participants per day. At the end of the data collection information booklet was given to the study participants and explained regarding hypothyroidism .The data collection procedure continued till the sample size reached 50.The investigator thanked hospital authorities, doctors, nurses and other staff for their cooperation and support.

Data Analysis and Interpretation

The analysis is a process of organizing and synthesizing the data in such a way that the research questions can be answered and the hypotheses are tested. This chapter deals with the analysis and interpretation of the data collected from 50 women with hypothyroidism to assess Knowledge, Attitude and Practice regarding Hypothyroidism among Women in Selected Hospital, Chennai. The data was organized, tabulated and analyzed according to the objectives. Data analysis begins with description that applies to the study in which the data are numerical with some concepts. Descriptive statistics allows the researcher to organize the data and to examine the quantum of information and inferential statistics is used to determine the relationship.

Organization of the Data

Data collected were organized under the following sections.

Section A: Description of the demographic variables of women with hypothyroidism.

Section B: Assessment of level of knowledge, attitude and practice regarding hypothyroidism among women.

Section C: Relationship between knowledge, attitude and practice regarding hypothyroidism among women.

Section D: Association of level of knowledge, attitude and practice regarding hypothyroidism among women with hypothyroidism with selected demographic variables.

Table I: Frequency and percentage distribution of demographic variables of samples n = 50.

S. No	Demographic Variables	Frequency(n)	Percentage %
1.	**Age in years**		
	18 - 24 years	5	10%
	25 - 35 years	17	34%
	36 - 45 years	10	20%
	46 - 55 years	8	16%
	56 - 65 years	8	16%
	>65 years	2	4%
2.	**Marital status**		
	Married	36	72%
	Unmarried	5	10%
	Widow	8	16%
	Divorce	1	2%
3.	**Level of education**	6	12%
	Illiterate	17	34%
	Elementary	11	22%
	High school Graduate	11	22%
	PG and above	5	10%
4.	**Religion**		
	Hindu	35	70%
	Christian	12	24%
	Muslim	3	6%
	Others	0	0%
5.	**Residence**	49	98%
	Urban Rural	1	2%

6.	**Occupational status**		
	Private employee	14	28%
	Government employee	1	2%
	Business	10	20%
	Daily wages	5	10%
	None	20	40%
7.	**Monthly income**		
	Rs.<5000/-	14	28%
	Rs.5000 - 10,000/-	31	62%
	Rs.>10,000/-	5	10%
8.	**Family history of hypothyroidism**		
	Yes	35	70%
	No	15	30%
9.	**Source of information**		
	Television	22	44%
	Radio	2	4%
	Newspaper	6	12%
	Friends	8	16%
	Relatives	12	24%
10.	**Duration of illness**		
	1 - 5 years	33	66%
	6 - 10 years	13	26%
	11 - 15 years	2	4%
	>=16 years	2	4%
11.	**CLINICAL VARIABLES** **Baseline TSH at the time of diagnosis (with in 6 month)**		
	Yes	49	98%
	No	1	2%
12.	**Recent TSH level(diabetes mellitus-8, hypertension- 4,renal problems-2)**		
	1.0 - 4.0	27	54%
	4.1 - 8.0	16	32%
	8.1 - 12.0	7	14%
13.	**Any other medical conditions**		
	Yes	14	28%
	No	36	72%
14.	**BMI**		
	<18.5 kg/m^2	0	0%
	18.5 - 22.9 kg/m^2	10	20%
	23.0 - 24.9 kg/m^2	7	14%
	>25 kg/m^2	33	66%
15.	**Medication used**		
	Used	50	100%
	Not used	0	0%
16.	**Duration of medication used**		
	Less than 6 months	0	0%
	7 - 12 months	0	0%
	13 - 18 months	0	0%
	More than 18 months	50	100%
17.	**Adherence to Thyroxin (Number of missed doses In the last month)**		
	Yes	33	66%
	No	17	34%

The table I shows that maximum 17(34%) were in the age group of 25 – 35 years, 36(72%) were married, 17(34%) had elementary education, 35(70%) were Hindus, 49(98%) were residing in urban area, 20(40%) were not working, 31(62%) had a monthly income of Rs500-10,000/-, 35(70%) had family history of hypothyroidism, 22(44%) received previous information regarding hypothyroidism through television, 33(66%) were having illness for 1 5 years, 49(98%) had baseline TSH at the time of diagnosis, 27(54%) had recent TSH

level between 1.0 – 4.0, 36(72%) had no other medical conditions, 33(66%) had a BMI of >25 kg/m^2, almost all 50(100%) used medication and were using the medication for more than 18 months and 33(66%) were adhering to thyroxin.

Table II: Frequency and percentage distribution of level of knowledge regarding hypothyroidism among samples n = 50.

S. No.	Level of Knowledge	Inadequate (<50%)		Moderately Adequate (50 – 75)		Adequate (76 – 100)	
		No	%	No	%	No	%
1.	Anatomy and physiology	38	76.0	12	24.0	0	0
2.	Definition, incidence, causes	23	46.0	22	44.0	5	10.0
3.	Signs and symptoms	7	14.0	20	40.0	23	46.0
4.	Diagnostic evaluation	21	42.0	21	42.0	8	16.0
5.	Management	16	32.0	23	46.0	11	22.0
6.	Complication	27	54.0	0	0	23	46.0
	Overall	**17**	**34.0**	**30**	**6.0**	**3**	**6.0**

The table II shows that with respect to knowledge on anatomy and physiology, 38(76%) had inadequate knowledge and 12(24%) had moderately adequate knowledge. Regarding definition, incidence, causes of hypothyroidism, 23(46%) had inadequate knowledge, 22(44%) had moderately adequate knowledge and 5(10%) had adequate knowledge. With regard to signs and symptoms of hypothyroidism, 23(46%) had adequate knowledge, 20(40%) had moderately adequate knowledge and 7(14%) had inadequate knowledge Considering the diagnostic evaluation of hypothyroidism, 21(42%) had inadequate and moderately adequate knowledge respectively and 8(16%) had adequate knowledge. Regarding management of hypothyroidism, 23(46%) had moderately adequate knowledge, 16(32%) had inadequate knowledge and 11(22%) had adequate knowledge. With respect to complication of hypothyroidism, 27(54%) had inadequate knowledge and 23(46%) had adequate knowledge. The overall level of knowledge on hypothyroidism among women revealed that, 30(60%) had moderately adequate knowledge, 17(34%) had inadequate knowledge and 3(6%) had adequate.

Table III; Frequency and percentage distribution of level of attitude regarding hypothyroidism among samples n = 50.

Level of Attitude	Frequency	Percentage (%)
Not Concerned (1 – 40%)	1	2.0%
Quite Concerned (41 – 60%)	13	26.0%
Extremely Concerned (61 – 100%)	36	72.0%

The table III shows that 36(72%) had extremely concerned attitude, 13(26%) had quite concerned attitude and 1(2%) were not concerned regarding hypothyroidism among women.

Table IV: Frequency and percentage distribution of level of practice regarding hypothyroidism among samplesn = 50.

Level of Practice	Frequency	Percentage (%)
Inadequate (<50%)	17	34.0
Moderately Adequate (50 – 75%)	24	48.0
Adequate (76 – 100%)	9	18.0

The table IV shows that 24(48%) had moderately adequate practice, 17(34%) had inadequate practice and 9(18%) had adequate practice regarding hypothyroidism among women.

Table V: Mean and standard deviation of knowledge score regarding hypothyroidism among samples n = 50.

S. No.	Knowledge	Minimum	Maximum	Mean	S.D
1.	Anatomy and physiology	0	6.0	2.4	1.48
2.	Definition, incidence, causes	1.0	6.0	3.54	1.43
3.	Signs and symptoms	1.0	16.0	6.3	2.37
4.	Diagnostic evaluation	0	3.0	1.62	0.90
5.	Management	1.0	7.0	4.3	1.49

6.	Complication	0	1.0	0.46	0.50
	Overall	**8.0**	**31.0**	**18.60**	**5.17**

***p<0.001, S – Significant

The table V shows that with respect to knowledge on anatomy and physiology, the minimum score was 0 and maximum score was 6.0. The mean score was 2.4±1.48. Regarding definition, incidence, causes of hypothyroidism, the mean score was 3.54±1.43 with minimum score of 1.0 and maximum score 16.0With regard to signs and symptoms of hypothyroidism, the mean score was 6.3±2.37 with minimum score of 1.0 and maximum score 6.0.

Considering the diagnostic evaluation of hypothyroidism, the mean score was 1.62±0.90 with minimum score of 0 and maximum score 3.0.Regarding management of hypothyroidism, the mean score was 4.3±1.49 with minimum score of 1.0 and maximum score 7.0.With respect to complication of hypothyroidism, the mean score was 0.46±0.50 with minimum score of 0 and maximum score 1.0.

The overall level of knowledge on hypothyroidism among women revealed that, the mean score was 18.60±5.17 with minimum score of 8.0and maximum score 31.0.

Table VI: Mean and standard deviation of attitude and practice score regarding hypothyroidism among samples n = 50.

Variables	Minimum	Maximum	Mean	S.D
Attitude	19.0	40.0	32.80	3.69
Practice	1.0	9.0	5.54	1.79

The table VI shows that the mean score of attitude was 32.80±3.69 with the minimum score of 19.0 and maximum score 40.0.

The mean score of practice was 5.54±1.79 with the minimum score of 1.0 and maximum score 9.0.

Table VII: Correlation between knowledge, attitude and practice scores regarding hypothyroidism among samples n= 50.

Variables	Mean	S.D	'r' Value
Knowledge Attitude	18.60 32.80	5.17 3.69	**r = 0.479** **p = 0.0001, S****
Knowledge Practice	18.60 5.54	5.17 1.79	**r = 0.447** **p = 0.001, S****
Attitude Practice	32.80 5.54	3.69 1.79	**r = 0.301** **p = 0.034, S***

**p≤0.01, *p<0.05, S – Significant

The table VII shows that the mean score of knowledge was 18.60±5.17, attitude was 32.80±3.69 and practice was 5.54±1.79.The calculated Karl Pearson's Correlation value of r = 0.479 between knowledge and attitude and r = 0.447 between knowledge and practice shows a moderate positive correlation. The table also depicts Karl Pearson's Correlation value of r = 0.301 between attitude and practice shows a fair positive correlation. The above findings clearly indicate that when the knowledge regarding hypothyroidism among women increases their attitude and practice level also increases.

Table VIII: Association of level of knowledge regarding hypothyroidism among samples with selected demographic variables n = 50.

S. No.	Demographic Variables	Inadequate (<50%)		Moderately Adequate (50 – 75)		Adequate (76 – 100)		Chi-Square Value
		No	%	No	%	No	%	
1.	**Age in years**							
	18 - 24 years	0	0	5	10.0	0	0	
	25 - 35 years	3	6.0	11	22.0	3	6.0	χ^2=13.868
	36 - 45 years	4	8.0	6	12.0	0	0	d.f=10
	46 - 55 years	5	10.0	3	6.0	0	0	p = 0.179
	56 - 65 years	4	8.0	4	4.0	0	0	N.S
	>65 years	1	2.0	1	2.0	0	0	
2.	**Marital status**							
	Married	12	24.0	21	42.0	3	6.0	χ^2=3.728
	Unmarried	1	2.0	4	8.0	0	0	d.f=6
	Widow	3	6.0	5	10.0	0	0	p = 0.713
	Divorce	1	2.0	0	0	0	0	N.S

3.	**Level of education**							
	Illiterate	3	6.0	3	6.0	0	0	**χ^2=23.225**
	Elementary	12	24.0	5	10.0	0	0	**d.f=8**
	High school	2	4.0	8	16.0	1	2.0	**p = 0.003**
	Graduate	0	0	9	18.0	2	4.0	**S*****
	PG and above	0	0	5	10.0	0	0	
4.	**Religion**							
	Hindu	11	22.0	22	44.0	2	4.0	χ^2=0.839
	Christian	5	10.0	6	12.0	1	2.0	d.f=4
	Muslim	1	2.0	2	4.0	0	0	p = 0.933
	Others	-	-	-	-	-	-	N.S
5.	**Residence**							χ^2=0.680
	Urban	17	34.0	29	58.0	3	6.0	d.f=2
	Rural	0	0	1	2.0	0	0	p = 0.712 N.S
6.	**Occupational status**							
	Private employee	2	4.0	9	18.02.0	3	6.0	χ^2=12.300
	Government employee	0	0	1	10.0	0	0	d.f=8
	Business	5	10.0	5	4.0	0	0	p = 0.138
	Daily wages	3	6.0	2	26.0	0	0	N.S
	None	7	14.0	13		0	0	
7.	**Monthly income** Rs.<5000/-	7	14.0	7	14.0	0	0	χ^2=3.897
	Rs.5000 - 10,000/-	8	16.0	20	40.0	3	6.0	d.f=4
	Rs.>10,000/-	2	4.0	3	6.0	0	0	p = 0.420 N.S
8.	**Family history of hypothyroidism**							χ^2=5.247
	Yes	15	30.0	19	38.0	1	2.0	d.f=2
	No	2	4.0	11	22.0	2	4.0	p = 0.073 N.S
9.	**Source of information**							
	Television	8	16.0	12	24.0	2	4.0	χ^2=10.004
	Radio	0	0	2	4.0	0	0	d.f=8
	Newspaper	0	0	5	10.0	1	2.0	p = 0.265
	Friends	2	4.0	6	12.0	0	0	N.S
	Relatives	7	14.0	5	10.0	0	0	
10	**Duration of illness**							
	1 - 5 years	13	26.0	18	36.0	2	4.0	χ^2=3.062
	6 - 10 years	2	4.0	10	20.0	1	2.0	d.f=6
	11 - 15 years	1	2.0	1	2.0	0	0	p = 0.801
	>=16 years	1	2.0	1	2.0	0	0	N.S
11.	**Clinical Variables Baseline TSH at the time of diagnosis(with in 6 month)**							χ^2=0.680 d.f=2
	Yes	17	34.0	29	58.0	3	6.0	p = 0.712 N.S
	No	0	0	1	2.0	0	0	
12.	**Recent TSH level (diabetes mellitus-8, hypertension- 4,renal problems-2)**							
	1.0 - 4.0	6	12.0	20	40.0	1	2.0	χ^2=6.783
	4.1 - 8.0	9	18.0	6	12.0	1	2.0	d.f=4
	8.1 - 12.0	2	4.0	4	8.0	1	2.0	p = 0.148 N.S
13.	**Any other medical conditions**							χ^2=2.955
	Yes	7	14.0	7	14.0	0	0	d.f=2
	No	10	20.0	23	46.0	3	6.0	p = 0.228 N.S
14.	**BMI**							
	<18.5 kg/m^2	-	-	-	-	-	-	
	18.5 - 22.9 kg/m^2	2	4.0	7	14.0	1	2.0	χ^2=1.688
	23.0 - 24.9 kg/m^2	3	6.0	4	8.0	0	0	d.f=4
	>25 kg/m^2	12	24.0	19	38.0	2	4.0	p = 0.793 N.S

15.	**Medication used** Used Not used	17 -	34.0 -	30 -	60.0 -	3 -	6.0 -	-
16.	**Duration of medication used** Less than 6 months 7 - 12 months 13 - 18 months More than 18 months	- - 17	- - 34.0	- - 30	- - 60.0	- - 3	- 6.0	-
17.	**Adherence to Thyroxin (Number of missed doses In the last month)** Yes No	12 5	24.0 10.0	19 11	38.0 22.0	2 1	4.0 2.0	χ^2=0.255 d.f=2 p = 0.880 N.S

***p<0.001, S – Significant, N.S – Not Significant

The table VIII shows that the demographic variable level of education had shown statistically highly significant association with level of knowledge regarding hypothyroidism at p<0.001 level (χ^2=23.225, d.f=8, p=0.003) and the other demographic variables had not shown statistically significant association with level of knowledge regarding hypothyroidism among women.

Table IX: Association of level of attitude regarding hypothyroidism among samples with selected demographic variables n = 50.

Demographic Variables	Not Concerned (1-40%)		Quite Concerned (41 – 60)		Extremely Concerned (61 – 100)		Chi- Square Value
	No	%	No	%	No	%	
Age in years							
18 - 24 years	0	0	0	0	5	10.0	
25 - 35 years	0	0	4	8.0	13	26.0	
36 - 45 years	0	0	3	6.0	7	14.0	χ^2=10.707
46 - 55 years	0	0	4	8.0	4	8.0	d.f=10 p = 0.381
56 - 65 years	1	2.0	1	2.0	6	12.0	N.S
>65 years	0	0	1	2.0	1	2.0	
Marital status							
Married	0	0	12	24.0	24	48.0	χ^2=8.921
Unmarried	0	0	0	0	5	10.0	d.f=6
Widow	1	2.0	1	2.0	6	12.0	
Divorce	0	0	0	0	1	2.0	p = 0.178 N.S
Level of education							
Illiterate	0	0	2	4.0	4	8.0	
Elementary	1	2.0	6	12.0	10	20.0	χ^2=5.322
High school	0	0	3	6.0	8	16.0	d.f=8
Graduate	0	0	2	4.0	9	18.0	p = 0.723
PG and above	0	0	0	0	5	10.0	N.S
Religion							
Hindu	0	0	10	20.0	25	50.0	χ^2=3.748
Christian	1	2.0	2	4.0	9	18.0	d.f=4
Muslim	0	0	1	2.0	2	4.0	
Others	-	-	-	-	-	-	p = 0.441 N.S
Residence							χ^2=0.397
Urban	1	2.0	13	26.0	35	70.0	d.f=2
Rural	0	0	0	0	1	2.0	p = 0.820N.S
Occupational status							
Private employee	0	0	3	6.0	11	22.0	
Government employee	0	0	0	0	1	2.0	χ^2=2.505
Business	0	0	3	6.0	7	14.0	d.f=8
Daily wages	0	0	1	2.0	4	8.0	p = 0.961
None	1	2.0	6	12.0	13	26.0	N.S
Monthly income							**χ^2=14.021**
Rs.<5000/-	1	2.0	5	10.0	8	16.0	**d.f=4**
Rs.5000 - 10,000/-	0	0	4	8.0	27	54.0	**p = 0.007**

Rs.>10,000/-	0	0	4	8.0	1	2.0	**S****
Family history of hypothyroidism							χ^2=4.864 d.f=2
Yes	1	2.0	12	24.0	22	44.0	p = 0.088
No	0	0	1	2.0	14	28.0	N.S
Source of information							
Television	1	2.0	5	10.0	16	32.0	χ^2=2.559 d.f=8 p = 0.959 N.S
Radio	0	0	1	2.0	1	2.0	
Newspaper	0	0	1	2.0	5	10.0	
Friends	0	0	2	4.0	6	12.0	
Relatives	0	0	4	8.0	8	16.0	
Duration of illness							χ^2=5.254 d.f=6
1 - 5 years	1	2.0	11	22.0	21	42.0	
6 - 10 years	0	0	1	2.0	12	24.0	
11 - 15 years	0	0	0	0	2	4.0	p = 0.512 N.S
>=16 years	0	0	1	2.0	1	2.0	
CLINICAL VARIABLES **Baseline TSH at the time of diagnosis (with in 6 month)**							χ^2=0.397 d.f=2
Yes	1	2.0	13	26.0	35	70.0	p = 0.820
No	0	0	0	0	1	2.0	N.S
Recent TSH level(diabetes mellitus-8, hypertension- 4,renal problems-2)							χ^2=2.787 d.f=4 p = 0.594 N.S
1.0 - 4.0	0	0	6	12.0	21	42.0	
4.1 - 8.0	1	2.0	5	10.0	10	20.0	
8.1 - 12.0	0	0	2	4.0	5	10.0	
Any other medical conditions							χ^2=3.873 d.f=2
Yes	1	2.0	5	10.0	8	16.0	p = 0.144
No	0	0	8	16.0	28	56.0	N.S
BMI							χ^2=1.179 d.f=4
<18.5 kg/m^2	-	-	-	-	-	-	
18.5 - 22.9 kg/m^2	0	0	3	6.0	7	14.0	
23.0 - 24.9 kg/m^2	0	0	1	2.0	6	12.0	p = 0.881 N.S
>25 kg/m^2	1	2.0	9	18.0	23	46.0	
Medication used							
Used	1	2.0	13	26.0	36	72.0	
Not used	-	-	-	-	-	-	-
Duration of medication used							
Less than 6 months	-	-	-	-	-	-	
7 - 12 months	-	-	-	-	-	-	
13 - 18 months	-	-	-	-	-	-	
More than 18 months	1	2.0	13	26.0	36	72.0	-
Adherence to Thyroxin(Number of missed doses In the last month)							χ^2=4.332 d.f=2
Yes	0	0	11	22.0	22	44.0	p = 0.115
No	1	2.0	2	4.0	14	28.0	N.S

**p<0.01, S – Significant, N.S – Not Significant

The table IX shows that the demographic variable monthly income had shown statistically significant association with level of attitude towards hypothyroidism at p<0.01 level (χ^2=14.021, d.f=4, p=0.007) and the other demographic variables had not shown statistically significant association with level of attitude towards hypothyroidism among women

Table X: Association of level of practice regarding hypothyroidism among samples with selected demographic variables n = 50.

Demographic Variables	Inadequate (<50%)		Moderately Adequate (50 – 75)		Adequate (76 – 100)		Chi-Square Value
	No	%	No	%	No	%	
Age in years							
18 - 24 years	1	2.0	2	4.0	2	4.0	
25 - 35 years	4	8.0	9	18.0	4	8.0	
36 - 45 years	0	0	7	14.0	3	6.0	**χ^2=20.039**
46 - 55 years	4	8.0	4	8.0	0	0	**d.f=10 p = 0.029**
56 - 65 years	6	12.0	2	4.0	0	0	**S***
>65 years	2	4.0	0	0	0	0	
Marital status							
Married	9	18.0	19	38.0	8	16.0	χ^2=10.053
Unmarried	1	2.0	3	6.0	1	2.0	d.f=6
Widow	6	12.0	2	4.0	0	0	
Divorce	1	2.0	0	0	0	0	p = 0.122 N.S
Level of education							
Illiterate	3	6.0	3	6.0	0	0	χ^2=13.903
Elementary	8	16.0	8	16.0	1	2.0	d.f=8
High school	3	6.0	7	14.0	1	2.0	p = 0.084
Graduate	3	6.0	3	6.0	5	10.0	N.S
PG and above	0	0	3	6.0	2	4.0	
Religion							
Hindu	15	30.0	14	28.0	6	12.0	χ^2=4.862
Christian	2	4.0	8	16.0	2	4.0	d.f=4
Muslim	0	0	2	4.0	1	2.0	
Others	-	-	-	-	-	-	p = 0.302 N.S
Residence							χ^2=1.105
Urban	17	34.0	23	46.0	9	18.0	d.f=2
Rural	0	0	1	2.0	0	0	p = 0.575 N.S
Occupational status							
Private employee	4	8.0	7	14.0	3	6.0	χ^2=6.927
Government employee	0	0	1	2.0	0	0	d.f=8
Business	4	8.0	6	12.0	0	0	
Daily wages	2	4.0	3	6.0	0	0	
None	7	14.0	7	14.0	6	12.0	p = 0.545 N.S
Monthly income							
Rs.<5000/-	7	14.0	5	10.0	2	4.0	χ^2=8.730
Rs.5000 - 10,000/-	7	14.0	19	38.0	5	10.0	d.f=4
Rs.>10,000/-	3	6.0	0	0	2	4.0	p = 0.068 N.S
Family history of hypothyroidism							**χ^2=12.154**
Yes	13	26.0	20	40.0	2	4.0	**d.f=2**
No	4	8.0	4	8.0	7	14.0	**p = 0.002 S*****
Source of information							
Television	6	12.0	10	20.0	6	12.0	χ^2=9.822
Radio	0	0	2	4.0	0	0	d.f=8
Newspaper	2	4.0	3	6.0	1	2.0	p = 0.278
Friends	2	4.0	6	12.0	0	0	N.S
Relatives	7	14.0	3	6.0	2	4.0	
Duration of illness							χ^2=4.855
1 - 5 years	12	24.0	16	32.0	5	10.0	d.f=6
6 - 10 years	4	8.0	6	12.0	3	6.0	

11 - 15 years	0	0	2	4.0	0	0	p = 0.563 N.S
>=16 years	1	2.0	0	0	1	2.0	
CLINICAL VARIABLES							
Baseline TSH at the time of diagnosis (with in 6 month)			23.0		9	18.0	χ^2=1.105 d.f=2
Yes	17	34.0		46.0			
No	0	0	1.0	2.0	0	0	p = 0.575 N.S
Recent TSH level (diabetes mellitus-8, hypertension-4,renal problems-2)							χ^2=4.188
1.0 - 4.0	7	14.0	13	26.0	7	14.0	d.f=4
4.1 - 8.0	8	16.0	7	14.0	1	2.0	p = 0.381
8.1 - 12.0	2	4.0	4	8.0	1	2.0	N.S
Any other medical conditions							**χ^2=8.048 d.f=2**
Yes	9	18.0	4	8.0	1	2.0	**p = 0.018**
No	8	16.0	20	40.0	8	16.0	**S***
BMI							χ^2=6.380 d.f=4
<18.5 kg/m^2	-	-	-	-	-	-	
18.5 - 22.9 kg/m^2	1	2.0	6	12.0	3	6.0	
23.0 - 24.9 kg/m^2	1	2.0	5	10.0	1	2.0	
>25 kg/m^2	15	30.0	13	13.0	5	10.0	p = 0.173 N.S
Medication used							
Used	17	34.0	24	48.0	9	18.0	-
Not used	-	-	-	-	-	-	
Duration of medication Used							
Less than 6 months	-	-	-	-	-	-	
7 - 12 months	-	-	-	-	-	-	
13 - 18 months	-	-	-	-	-	-	
More than 18 months	17	34.0	24	48.0	9	18.0	-
Adherence to Thyroxin (Number of missed doses In the last month)							χ^2=1.344 d.f=2
Yes	12	24.0	14	28.0	7	14.0	p = 0.511
No	5	10.0	10	20.0	2	4.0	N.S

***p<0.001, *p<0.05, S – Significant, N.S – Not Significant.

The table X shows that the demographic variable age in years and any other medical conditions had shown statistically significant association with level of practice regarding hypothyroidism at p<0.05 level (χ^2=20.039, d.f=10, p=0.029) and (χ^2=8.048, d.f=2, p=0.018), The demographic variable family history of hypothyroidism had shown statistically highly significant association with level of practice regarding hypothyroidism at p<0.001 level **(χ^2=12.154, d.f=2, p=0.002)** and the other demographic variables had not shown statistically significant association with level of practice towards hypothyroidism among women.

DISCUSSION

The first objectives was to assess the Knowledge, Attitude and Practice regarding Hypothyroidism among women

Level of knowledge on hypothyroidism among women revealed that, 30(60%) had moderately adequate knowledge, 17(34%) had inadequate knowledge and 3(6%) had adequate knowledge.

Level of attitude on hypothyroidism among women revealed that,36(72%) had extremely concerned attitude, 13(26%) had quite concerned attitude and 1(2%) were not concerned.

Level of practice on hypothyroidism among women revealed 24(48%) had moderately adequate practice,

17(34%) had inadequate practice and 9(18%) had adequate practice.

The above findings are supported by a study conducted by Shanmugarajan (2017), a prospective study to assess the knowledge, attitude and practices in patient has been previously diagnosed to have thyroid disorders was on treatment. The samples included 101 patients has diagnosed hypothyroidism. The study revealed that 39.5 % had inadequate knowledge ,19.5% had quiet concerned attitude and 19.5% had inadequate practice .Hence overall 79.2% of the patients diagnosed with thyroid disorder had other co morbid conditions. This study suggests that good knowledge and awareness disease enhance patient compliance and regular monitoring.

In the present study it was found that 56% were adherent,30% moderately adherent,14% were non adherent to treatment,Contradictory finding was reported by Pradeep kumar (2017),where 90.4% participants were adherent to treatment, 2.4% were moderately adherent, and remaining 7.2% participants were non adherent to treatment.

The second objective was to find the relationship between knowledge, attitude and practice regarding hypothyroidism among women.

Karl Pearson's Correlation value of r = 0.479 between knowledge and attitude and r = 0.447 between knowledge and practice shows a moderate positive correlation. Karl Pearson's Correlation value of r = 0.301 between attitude and practice shows a fair positive correlation. The above findings clearly indicate that when the knowledge regarding hypothyroidism among women increases their attitude and practice level also increases Hypothesis (H1) was accepted.

The above findings are supported by a study conducted by Singh et al (2016) on the knowledge, awareness, and practices (KAP) The study shows that patients who have hypothyroidism, have lack of knowledge, poor attitude and practice (50%). This indicates the relationship between the knowledge, attitude and practice. When there is increase knowledge about hypothyroidism it has an impact on attitude and level of practice.

The third objectives were to associate between the knowledge, attitude and practice regarding hypothyroidism among women with their demographic variables.

- Level of education with Knowledge
- Monthly income with attitude
- Age in year, family history of hypothyroidism, other medical condition with practice

Hypothesis (H2) was accepted.

The above findings are supported by a study conducted by Sethi et al(2018)conducted a cross-sectional study to assess Knowledge, Attitude, Practice in patients with hypothyroidism across 16 centers in India. Significant associations were found between education and the levels of knowledge, concern, and precautions taken. This study identified significant gaps in the knowledge about the risks associated with hypothyroidism, importance of laboratory investigation, and dietary precautions.

Recommendations

- This study can be conducted on large scale sample to draw conclusion that are more are definite and generalize to a large population.
- An interventional study to assess the effectiveness of IEC on knowledge, attitude, practice regarding hypothyroidism.
- Similar study can be conducted among adolescent girls or women who are not diagnosed to have hypothyroidism.
- Qualitative study can be done to assess the lived in experiences of women with hypothyroidism.

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