ASSESS THE KNOWLEDGE AND ATTITUDE: MATERNAL HYPOTHYROIDISM AMONG ANTENATAL MOTHERS WITH HYPOTHYROIDISM, BANGALORE, KARNATAKA, INDIA.

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ABSTRACT

Thyroid diseases affect up to 5% of all pregnancies. Adverse pregnancy and neonatal outcomes are increased by maternal thyroid disease and adequate treatment is thought to reduce these risks. Hypothyroidism is commonly treated with Levothyroxine, with pregnancy increasing Levothyroxine requirements in most women treated for hypothyroidism. Hypothyroidism complicates up to 3% of pregnancies, of which 0.3–0.5% is overt and 2.0–2.5% is subclinical hypothyroidism.[1] When iodine intake is sufficient, the most common cause of hypothyroidism during pregnancy is chronic autoimmune thyroiditis whereas a smaller proportion is due to iatrogenic causes including surgery to treat thyroid cancer or nodules or radioactive iodine ablation to treat hyperthyroidism. Pregnant women or women planning pregnancies are diagnosed with overt hypothyroidism when they have elevated TSH levels with low free T4 concentrations, preferably defined with pregnancy-specific reference intervals [2].To assess the knowledge regarding maternal hypothyroidism among antenatal mothers. 2. To assess the attitude regarding maternal hypothyroidism among antenatal mothers. 3. To determine the association between knowledge regarding maternal hypothyroidism among antenatal mothers with selected demographic variables. Quantitative, Non Experimental Descriptive study. The Simple random sampling technique was used for the study. The knowledge questionnaire & attitude scale were distributed among 60 antenatal mothers with hypothyroidism. The data were analyzed by using descriptive, inferential statistical methods. Distribution of knowledge scores regarding maternal hypothyroidism among antenatal mothers with hypothyroidism shows that (28) 46.66% had inadequate knowledge, whereas (11) 18.33 % of antenatal mothers with hypothyroidism had adequate knowledge. Attitude scores show that (32)53.3% of antenatal mothers with hypothyroidism had negative attitude whereas (10)16.7% of antenatal mothers with hypothyroidism had positive attitude regarding hypothyroidism during pregnancy. The analysis revealed that there is significant association was found with type of family, occupation, educational status, and food habits at $p < 0.05$and no association could be found with other demographic variables regarding hypothyroidism during pregnancy. Maternal hypothyroidism is a disorder with great potential to adversely affect maternal and fetal outcomes and is also associated with multiple other conditions which can affect maternal and foetal health. If the condition is detected early, it is easy to treat, with very little

detriment to the mother and the foetus. Hence, this condition needs early detection, prompt initiation of treatment, adequate follow-up and most importantly, sufficient education of the doctors and the patients regarding these objectives, the importance of this condition and the ease and advantages of prompt management.

***Keywords*:** Assess, Maternal Hypothyroidism, Knowledge, Attitude, Antenatal mother.

INTRODUCTION

Pregnancy causes major changes in the levels of hormones made by the thyroid gland, located in the front of the neck. For that reason, thyroid problems sometimes can start or get worse during pregnancy or after childbirth. The thyroid makes the hormones T3 and T4, which control metabolism—how your body uses and stores energy. When the thyroid does not make enough thyroid hormone, doctors call this *underactive thyroid or hypothyroidism*. Hypothyroidism, both overt and subclinical, is common in women of reproductive age and during pregnancy, with frequencies ranging from 0.3% to 2.5% [1]. Hypothyroidism has adverse effects on the course of pregnancy and development of the fetus [2]. Several studies have reported that maternal hypothyroidism is associated with increased risks of abortions, stillbirths, preterm delivery, and pregnancy-induced hypertension [3–6].Pregnant women or women planning pregnancies are diagnosed with overt hypothyroidism when they have elevated TSH levels with low free T4 concentrations, preferably defined with pregnancy-specific reference intervals. [14,11] However, pregnant women with TSH over 10 mIU/l are always diagnosed with overt hypothyroidism, irrespective of free T4 concentrations.[7,8] Subclinical hypo thyroidism is diagnosed when TSH is elevated but less than 10 mIU/l and fT4 concentrations are normal.[7,8]Overt and subclinical hypothyroidism as well as increases in maternal TSH concentrations has been associated with increased risk of miscarriages/fetal losses [9,10] hypertensive disorders of pregnancy,[11]placental abruptions, preterm birth[12] and poor neurological development in the offspring.[10]Overt hypothyroidism has also been associated with maternal anemia and postpartum hemorrhage,[13] and subclinical hypothyroidism with cesarean sections,[11] gestational diabetes,[12] breech presentation[14,15] infants being small for gestational age,[16] fetal distress,[10] neonates needing intensive care treatment[12] and respiratory distress syndrome.[17] However, some studies have found no association between adverse Perinatal outcomes and hypothyroidism.[18] In a large cohorts, women with diagnosed hypothyroidism (without data on treatment) or treated hypothyroidism (without data on treatment adequacy) had higher risk of pregnancy complications such as preeclampsia, gestational diabetes, cesarean sections, labor inductions, preterm birth, malformations, placental abruptions, intensive care unit admissions[19] and neonatal complications including need for

intensive care unit treatment, respiratory problems, sepsis, anemia and infants being both large or small for gestational age (depending on the race/ethnicity of the mother). Adequately treated hypothyroidism still appears to increase risk of cesarean sections but is not associated with other adverse outcomes. [20]

MATERIAL AND METHODS

Statement of the problem: "A Descriptive Study to assess the knowledge and attitude regarding maternal hypothyroidism among antenatal mothers with hypothyroidism in selected hospital, Bangalore."

Aim of the Study

To determine knowledge and attitude of antenatal mothers with hypothyroidism regarding hypothyroidism during pregnancy

A. The objectives of the study were:

1. To assess the knowledge regarding maternal hypothyroidism among antenatal mothers with hypothyroidism by structured questionnaire.

2. To assess the attitude regarding maternal hypothyroidism among antenatal mothers with hypothyroidism by attitude scale.

3. To determine the association between knowledge regarding maternal hypothyroidism among antenatal mothers with hypothyroidism with selected demographic variables.

B. **Hypotheses:** All hypotheses were tested at 0.05 level of significance

H1: There will be a significant correlation between knowledge and attitude regarding maternal hypothyroidism among antenatal mothers with hypothyroidism

H2: There will be a significant association between knowledge of antenatal mother with hypothyroidism towards maternal hypothyroidism and selected demographic variables.

Research approach: Quantitative approach.

Research design: Non Experimental Descriptive plan for the study.

Variables: Knowledge, Attitude.

Setting: Narayana Hrudayalaya Hospital, Narayana health city, Bangalore.

Population: Antenatal mothers attending antenatal OPD in Narayana Hrudayalaya Hospital at Bangalore.

Sample size: 60 Antenatal mothers with hypothyroidism.

Sampling Technique: Simple random sampling technique

Sampling Criteria:

Inclusion Criteria: Antenatal mothers who have:

- Willing to participate in the study.
- Registered and attending the antenatal OPD for visits.
- Both primi and multi-gravida women
- Antenatal mothers who are available during data collection.

Exclusion Criteria:

- Health professional mothers
- Who are not willing to participate in the study

C. DESCRIPTION AND DEVELOPMENT OF THE TOOL:

The final tool comprised of 3 sections:

Section A: Baseline characteristics Performa.

Section B: Researcher prepared questionnaire to assess knowledge regarding maternal hypothyroidism

Section C: Consist of statements regarding the attitude of antenatal mothers on maternal hypothyroidism.

SCORING TECHNIQUE

Section A: Scoring key for demographic data variables.

It consists of antenatal mothers profile such as age in years, gravida, parity, occupation, monthly income, educational status and source of awareness of maternal hypothyroidism.

Section B: Scoring key for structured interview schedule format Knowledge questionnaire consists of 20 questions to assess knowledge. Each correct answer was given a score of one mark and wrong answer or unanswered was given a score of zero. The maximum score was 20.

Below 50%	**Inadequate knowledge**
50-75%	Moderate adequate knowledge
Above 75%	Adequate knowledge

Classification of knowledge score based on arbitrary division

Above table represents the knowledge scores of 00-49% was considered as Inadequate, 50-75% was considered as moderate and 76-100% as adequate knowledge.

Section C: Scoring key for attitude scale format.

It consists of 12 items to maternal hypothyroidism attitude questions were assessed by 5 point Likert's scales ranged from strongly agree to strongly disagree. In the attitude scale equal positive and negative statements selected. For negative statement reverse score was used.

Classification of attitude scores based on arbitrary division:

Below 50%	Negative attitude
50-75%	Uncertain attitude
Above 75%	Positive attitude

Above table represents the attitude scores of 0-49% was considered as inadequate, 50%-75% was considered as moderate and 76% -100% as adequate levels of attitude

Procedure for data collection:

- A prior permission was obtained from the institution
- Obtained written informed consent from antenatal mothers with hypothyroidism
- Issuing the tool for collecting the information regarding demographic variables, knowledge and attitude
- Each participant took 10 minutes to complete the questionnaire.

PLAN FOR DATA ANALYSIS:

To achieve the stated objective of the study, the data was analyzed by using descriptive and inferential statistics.

The plan of data analysis was as follows:-

- Organize the data in a master sheet in Microsoft excel.
- Frequency and Percentage for Demographic variables
- Mean, Mean percentage and Standard Deviation was used to determine the knowledge and attitude.
- Chi-square will be used to analyze the association of knowledge with selected demographic variables.

ETHICAL CONSIDERATION: The study was conducted after approval from the concerned institution. Assurance was given to the participants regarding the confidentiality.

RESULT AND DISCUSSION FINDINGS:

The analysis of the data was mainly classified as:

Section-I: Frequency and percentage distribution of socio demographic variables of antenatal mothers with hypothyroidism.

Section-II: Frequency and percentage distribution of level of knowledge of antenatal mothers with hypothyroidism regarding hypothyroidism during pregnancy:

Section-III: Frequency and Percentage distribution of attitude of antenatal

mothers with hypothyroidism regarding hypothyroidism during pregnancy:

Section-IV: Association between the level of knowledge and their selected socio demographic variables of antenatal mothers with hypothyroidism.

Table 1: Frequency and percentage distribution of sample characteristics:

n = 60

Sl.no	Sample characteristic	Frequency	Percentage
1. Age (in years):			
a.	20-25	10	16.67
b.	26-30	10	16.67
c.	31-35	18	30.00
d.	36 and above	22	36.66
2. Type of family:			
a.	Nuclear family	37	61.67
b.	Joint family	23	38.33
3. Occupation:			
a.	House wife	31	51.67
b.	Private employee	15	25.00
c.	Government employee	14	23.33
4. Educational status:			
a.	Primary school	36	60.00
b.	High school & above	18	30.00
c.	Graduation & above	6	10.00
5. Food habits:			
a.	Vegetarian	37	61.67
b.	Non vegetarian	23	38.33
6. Family Income per Month (in Rs):			

a.	Below 3000	21	35.00
b.	3001 – 6000	14	23.33
c.	6001-9000	15	25.00
d.	9001-12000	4	6.67
e.	Above 12000	6	10.00
7. Information sources about the illness:			
a.	Mass media (TV, Radio, News Paper, Magazine)	21	35.00
b.	Professionals (Doctor, Nurses, Health Personnel)	18	30.00
c.	Friends	13	21.67
d.	Relatives	8	13.33

Table -2: Assess the level of knowledge regarding hypothyroidism during pregnancy among antenatal mothers with hypothyroidism:

n = 60

Level of knowledge	f	%
Inadequate knowledge (< 50%)	28	46.66
Moderate adequate knowledge (50-75%)	21	35.00
Adequate knowledge (>75%)	11	18.33

Table shows that 28 (46.66%) of antenatal mothers with hypothyroidism had Inadequate knowledge, 21 (35.00%) of antenatal mothers with hypothyroidism had Moderate adequate knowledge, whereas 11(18.33%) of antenatal mothers with hypothyroidism had Adequate knowledge regarding hypothyroidism during pregnancy.

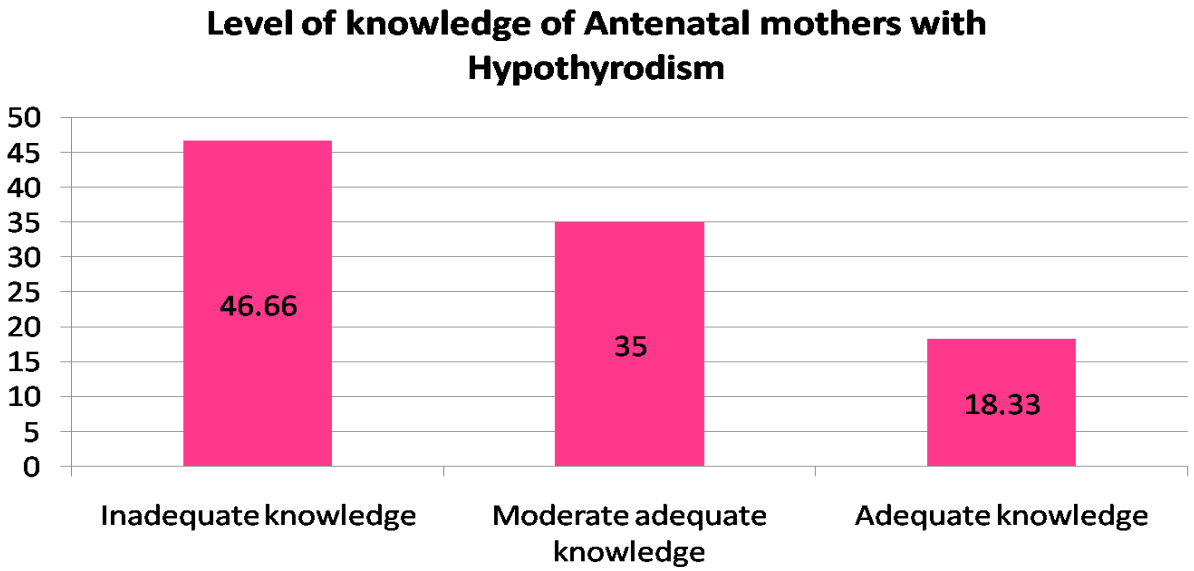

Figure: 1: Level of knowledge regarding hypothyroidism during pregnancy among antenatal mothers with hypothyroidism

Table – 3: Mean, SD and Mean % of knowledge of antenatal mothers with hypothyroidism regarding hypothyroidism during pregnancy in area wise analysis:

n = 60

Aspects wise knowledge	Max Statement	Max Score	Mean	SD	Mean %
Definition/Meaning & Causes,	4	4	1.43	0.87	35.75
Risk factors & Sign and Symptoms	6	6	1.81	0.99	30.17
Adverse Outcomes & Management	10	10	3.83	1.4	34.82

The above table shows that maximum mean of 3.83 with a standard deviation of 1.4 and means percentage of 34.82 regarding knowledge of adverse outcome and management. The mean score of 1.81 with standard deviation of 0.99 with mean

percentage of 30.17% regarding risk factors & signs and symptoms. The mean score of 1.43 with standard deviation 0.87 with mean percentage of 35.75% for knowledge of meaning and causes.

Table -4: Assess the level of attitude regarding hypothyroidism during pregnancy among antenatal mothers with hypothyroidism:

n = 60

Level of attitude	f	%
Negative attitude (< 50%)	32	53.3
Uncertain attitude (50-75%)	18	30
Positive attitude (>75%)	10	16.7

Table shows that 32 (53.3%) of antenatal mothers with hypothyroidism had Negative attitude, 18 (30%) of antenatal mothers with hypothyroidism had Uncertain attitude, whereas 10 (16.7%) of antenatal mothers with hypothyroidism had Positive attitude regarding hypothyroidism during pregnancy.

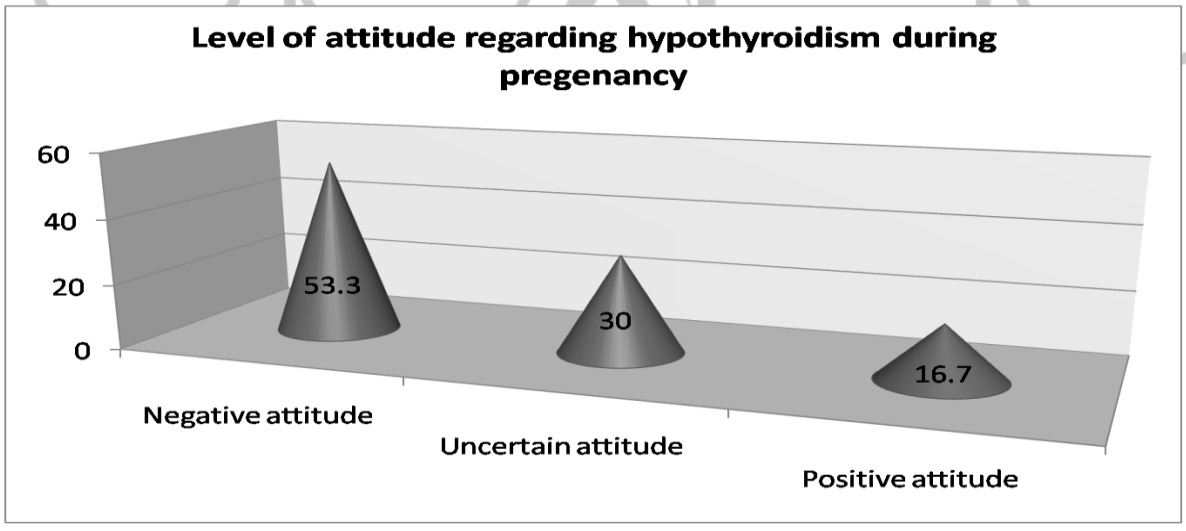

Figure: 2: Level of attitude regarding hypothyroidism during pregnancy among antenatal mothers with hypothyroidism

Table: 5 Association between the level of knowledge and their selected socio demographic variables of antenatal mothers with hypothyroidism: **n = 60**

Sl.no	Sample characteristic	Frequency	Percentage	Level of knowledge				Chi square value
				≤ Median (35)		≤ Median (25)		
				No	%	No	%	
1. Age (in years):								
a.	20-25	10	16.67	8	80	2	20	5.29 df 3 N.S
b.	26-30	10	16.67	7	70	3	30	
c.	31-35	18	30.00	11	61.1	7	38.9	
d.	36 and above	22	36.66	9	40.9	13	59.1	
2. Type of family:								
a.	Nuclear family	37	61.67	15	40.5	22	59.5	12.5 df 1 S
b.	Joint family	23	38.33	20	87.0	3	13.0	
3. Occupation:								
a.	House wife	31	51.67	11	35.5	20	64.5	13.87 df 2 S
b.	Private employee	15	25.00	12	80.0	3	20.0	
c.	Government employee	14	23.33	12	85.7	2	14.3	
4. Educational status:								
a.	Primary school	36	60.00	27	75.0	9	25.0	13.9 df 2 S
b.	High school & above	18	30.00	4	22.2	14	77.8	
c.	Graduation & above	6	10.00	4	66.7	2	33.3	
5. Food habits:								
a.	Vegetarian	37	61.67	15	40.5	22	59.5	12.5 df1 S
b.	Non vegetarian	23	38.33	20	87.0	3	13.0	
6. Information sources about the illness:								

a.	Mass media (TV, Radio, News Paper, Magazine)	21	35.00	12	57.1	9	42.9	1.21 df 3 N.S
b.	Professionals (Doctor, Nurses, Health Personnel)	18	30.00	9	50.0	9	50.0	
c.	Friends	13	21.67	9	69.2	4	30.8	
d.	Relatives	8	13.33	5	62.5	3	37.5	

Table 5 shows that the association between knowledge regarding hypothyroidism during pregnancy among antenatal mothers with hypothyroidism with their demographic variables, using Chi-square test. The analysis revealed that there is significant association was found with type of family, occupation, educational status, and food habits at $p < 0.05$and no association could be found with other demographic variables regarding hypothyroidism during pregnancy.

CONCLUSION

Women with thyroid disorders should be followed closely throughout pregnancy for the prevention of obstetric complications, and their newborn infants should be followed closely in the first months of postnatal life for thyroid dysfunction. The findings reveal that the majority of antenatal mothers with hypothyroidism had inadequate knowledge regarding hypothyroidism during pregnancy. It indicates that there is a need for creating awareness among antenatal mothers with hypothyroidism about maternal hypothyroidism.

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