

A Study to Assess the Effectiveness of Planned Health Teaching Programme Regarding Management of Thyroid Disorder among Pregnant Women Attending Antenatal OPD at Selected Hospital

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Abstract: *Aim of the study is to identify the pregnant women with the thyroid disorder and to teach them the management of thyroid disorders. The research design adopted for the present study was quasi experimental, one group pre - test and post test design. The simple random sampling technique was used to select 60 pregnant women attending antenatal OPD. a self - administered questionnaire was prepared to assess the knowledge of pregnant women. The findings of the study revealed that there was a marked increase in knowledge of pregnant women attending antenatal OPD after exposing them to planned teaching programme on management of thyroid disorder. The pre - test and post test knowledge means were 12.850 and 18.667 respectively. The standard deviation for pre test and post test were 5.734 and 5.590 respectively. The mean difference was 5.817. The calculated t' value 17.89 is greater than table value (2.0) at degree of freedom 0.05 level. This indicates that planned teaching programme was effective. The findings of the study suggested that the Planned teaching programme are beneficial in improves the knowledge regarding management of thyroid disorder among pregnant mothers.*

Keywords: Management of thyroid disorder, Pregnant Mothers, Antenatal OPD, Planned teaching programme

1. Introduction

Thyroid disease in pregnancy can be viewed as a state in which a combination of events concurs to modify the thyroidal economy. There is change in the level of thyroxine - binding globulin, total thyroid - hormone level and change in the level of thyroid stimulating hormone (TSH) during normal pregnancy¹

The purpose of your thyroid gland is to make, store, and release thyroid hormones into your blood. These hormones, which are also referred to as T3 (liothyronine) and T4 (levothyroxine), affect almost every cell in your body, and help control your body's functions. If you have too little thyroid hormone in your blood, your body slows down. This condition is called hypothyroidism. If you have too much thyroid hormone in your blood, your body speeds up. This condition is called hyperthyroidism²

Thyroid dysfunction has varied impact on pregnancy outcome. The risk of miscarriage is increased in autoimmune thyroid disease. Severe maternal hypothyroidism can result in irreversible neurological deficit in the offspring. Graves' disease (GD) can lead to pregnancy loss as well as fetal thyroid dysfunction³

Pregnancy can affect the health of the mother as well as the child before and after delivery^[4]. Uncorrected thyroid dysfunction in pregnancy has adverse effects on fetal and maternal well - being. Still, the overall lack of evidence precludes a recommendation for universal screening for thyroid disorder in all pregnant women⁴

Thyroid hormone concentrations in blood are increased in pregnancy, partly due to the high levels of estrogen and due to the weak thyroid stimulating effects of human chorionic gonadotropin (hCG) that acts like TSH. Thyroxin (T4) levels rise from about 6 to 12 weeks and peak by mid gestation; reverse changes are seen with TSH.5

2. Literature Survey

According to **Polit and Hungler (2003)** a literature review is a written summary of the existing knowledge on a research problem. The task of reviewing research literature involves the identification, selection, critical analysis and writer description of existing information on a research and the problem.

Venkata Ramana Murty Nabhi, Uma Bhashyakarla (2014), conducted a study to assess Prevalence of Thyroid Dysfunction among Pregnant Women. There is a paucity of data available on its prevalence in Indian pregnant women. This study was conducted at Bhaskar Medical College and Hospital situated in a rural/ suburban area near Hyderabad, Telengana, India. The aim of the study was to find out the prevalence of thyroid disease among pregnant women. All consecutive pregnant women from March 2014 to June 2014 were included in the study. Morning samples of serum were tested for T3, T4 and TSH. Result: - Total 322 women were included in the study. 1) 89 pregnant women (26%) had TSH values more than 3.0mIU/L, the cut - of value used for upper limit of normal in this study. Out of these, 2) 76 had normal T4 value, hence labeled as Subclinical Hypothyroidism 3) 13 had low T4, hence termed Overt Hypothyroidism. Two pregnant women had Overt Hyperthyroidism and one had

Subclinical Hyperthyroidism. Prevalence of thyroid disease in pregnancy was found to be higher in out patients, more so the sub clinical hypothyroidism.⁶

Mahmood. S. Islam (2013) was conducted in incidence of hypothyroidism during pregnancy is 2.5% failure to diagnose the problem causes serious complications both to the mother and to the fetus. This pathological condition is verified on the basis of clinical analysis and above all in the laboratory. Auto immunity is frequently the cause of hypothyroidism where as this condition is rarely provoked as a Result: - of surgery and therapy careful monitoring of women at risk. Therapy with L - thyroxine is essential to avoid damage to both mother and fetus and to monitor the glandular growth in the enthyroid goiter.⁷

Rama Saraladevi (2016) conducted a study among pregnant women during 1st trimester who attended antenatal clinic of maternity hospital to know the prevalence of thyroid disorders in pregnant women living in and around and also to know the outcome of pregnancy in women suffering from thyroid disorders. Result: - Prevalence of thyroid disorder was 11.6% with 95% CI of 9.64 to 13.54 which was high when compared to other regions in India and in other parts of Asia. Subclinical hypothyroidism and Overt hypothyroidism was 6.4% and 2.8% respectively. Subclinical and Overt hyperthyroidism was 1.8% and 0.6% respectively. Subclinical hypothyroidism was more prevalent and hidden, leading to the poor obstetrical outcome and fetal complications. Rate of miscarriage was high in overt hyperthyroid patient.⁸

Kh Paikhomba Singh (2015) conducted a study to find out the prevalence of hypothyroidism among pregnant women in Manipur. All the consecutive 400 first - and second - trimester pregnant women were registered for the study after institutional ethics approval and consent from the study subjects. The pregnant women with diagnosed thyroid disorder and on thyroid medication were excluded from the study. Apart from routine obstetrical investigations, thyroid stimulating hormone (TSH) was done. Result: - Test for free T4 was done in patients with TSH level > 3 mIU/L. The mean (SD) age of study subjects was 26.8 (\pm 8.2) years. About 92 (23%) subjects had TSH values > 3.0 mIU/L, the cut - off value used for the upper limit of normal in this study. Out of these 72 (18%) had normal FT4 value and, therefore, labeled as sub - clinical hypothyroidism (SCH) and 18 (4.5%) had low FT4, hence termed overt hypothyroidism. Two women had low FT4 values and normal TSH, hence labeled as isolated hypothyroidism.⁹

Rajesh Rajput et. al. (2015) a cross - sectional study was conducted at Department of endocrinology and antenatal clinic in the Obstetrics and Gynecology Pt. B. D. Sharma PGIMS, Rohtak over a period of 1 - year. The total sample population comprised of 461 pregnant women with uncomplicated intrauterine singleton pregnancies in the first trimester of gestation without any history of thyroid disease or intake of any thyroid medication. Result: - Mean maternal age was 23.79 ± 3.47 years. Median gestational age was 8 weeks 5 days. The median FT3, FT4 and TSH were 3.3 pg/mL, 1.25 ng/dL, and 1.40 mIU/L, respectively. Anti - TPO was elevated in 128 (27.8%) pregnant women.⁹⁹

(21.5%) women had sub - clinical hypothyroidism and 39 (39.4%) among them were positive for anti - TPO ($P \leq 0.001$).² (0.4%) of women had overt hyperthyroidism, whereas 15 (3.3%) of the women had sub - clinical hyperthyroidism.¹⁰

Nambiar V (2011), A study was conducted regarding Gynecologic and obstetric pathology with clinical and endocrinal co - relation among 106 hypothyroid pregnant women. The prevalence of hypothyroidism, Graves disease, gestational transient thyrotoxicosis, and thyroid autoimmunity (TAI) was 4.8%, 0.6%, 6.4%, and 12.4%, respectively. The result revealed that prevalence of hypothyroidism (4.8%) and TAI (12.4%) is high. The study concluded that TAI and hypothyroidism were significantly associated with miscarriage.¹¹

3. Problem Definition

“A study to assess the effectiveness of planned health teaching programme regarding management of thyroid disorder among pregnant women attending antenatal OPD at selected hospital”.

4. Objectives of the study

- 1) To assess the pre - test knowledge score regarding management of thyroid disorder among pregnant women.
- 2) To determine the effectiveness of planned teaching programme regarding management of thyroid disorders among pregnant women.
- 3) To assess the association between pre - test knowledge score regarding management of thyroid disorder among pregnant mothers attending OPD in selected hospital with their selected demographic variable.

5. Methods / approach

The research design adopted for the present study was quasi experimental, one group pre - test and post test design. A formal written permission was obtained from the higher and study samples. The simple random sampling technique was used to select 60 pregnant women attending antenatal OPD.

In view of nature of the problem and to accomplish the objectives of the study a self - administered questionnaire was prepared to assess the knowledge of pregnant women attending antenatal OPD regarding management of thyroid disorder among pregnant women. The sample size used for the present study was **60 pregnant women attending antenatal OPD in selected hospital** The Reliability and validity of the tool was ensured in consultation with guide and experts in the related field. The data was collected and analyzed by using descriptive and inferential statistics.

6. Results

According to Nancy Burns and Susan K. Grove (2007), statistical procedures are used to examine the numerical data gathered in a study.

The data collected were analyzed according to the plan for data analysis which includes both descriptive and inferential statistics. The data findings have been tabulated according to the plan for data analysis and interpreted according to objectives and hypothesis of the study.

The collected data is tabulated, analyzed, organized and presented under the following headings:

Section - I: Description of demographic characteristics of the samples. This section includes distribution of pregnant women attending antenatal OPD in relation to demographic data by using frequency and percentage.

Section - II: Assessment of pre - existing knowledge scores of pregnant women regarding management of thyroid disorder by using frequency and percentage of pre - test knowledge scores.

Assessment of post - test knowledge scores of pregnant women regarding management of thyroid disorder among pregnant by using frequency and percentage of post - test knowledge scores.

Section - III: It deals with the analysis of data related to the effectiveness of planned teaching programme on the knowledge scores by calculating difference between percentage of mean pre - test and post - test knowledge scores

Section - IV: Data analysis in relation to find out the association of pre - test knowledge score with selected demographic variables by using chi square test of association.

Section - V: Testing of Hypotheses by using paired “t” test
H₁: There will be significant difference between pre - test & post - test level of knowledge regarding management of thyroid disorder among pregnant women.

H₂: There will be significant association between the post - test level of knowledge among pregnant women with their selected demographic variable.

Section I: Description of demographic characteristics of the samples

Table I: Shows the frequency and percentage distribution of demographic variables.

Sr. No.	Characteristics	Category	Frequency	Percentage %
1.	Age in years	Below 20 years	10	16.67%
		21 – 30years	24	40%
		31 – 40 years	23	38.33%
		Above 41 years	3	5%
2.	Education	Illiterate	7	11.67%
		Primary School	11	18.33%
		Secondary school	13	21.67%
		Higher Secondary	18	30%
		Graduate	7	11.67%
3.	Type of occupation	House wife	28	46.67%
		Government	11	18.33%
		Non – Government	12	20%
		Other	9	15%
4.	Income	Below Rs.5000/ -	4	6.67%
		Rs.5001 - 10000/ -	13	21.67%

		Rs.10001 - 15000 / -	24	40%
		Above Rs.15001/ - .	19	31.67%
5.	Religion	Hindu	33	55%
		Muslim	12	20%
		Christian	6	10%
		Other	9	15%
6.	Marital status	Married	58	96.67%
		Unmarried	0	0%
		Widow	2	3.33%
		Divorce	0	0%
7.	Type of family	Nuclear	32	53.33%
		Joint	23	38.33%
		Extended	5	8.33%
8.	Type of Residence Area	Urban Area	29	48.33%
		Rural Area	31	51.67%
9.	Body Mass Index	Underweight	16	26.67%
		Healthy	29	48.33%
		Overweight	8	13.33%
		Obese	7	11.67%
10.	Age at menarche	Below 12 years	9	15%
		13 - 14 years	36	60%
		15 - 16 years	11	18.33%
		Above 17 Years	4	6.67%
11.	Parity	Primi Para	24	40%
		Multi Para	36	60%

Section II: Frequency and Percentage Distribution of Knowledge Score Regarding Management of Thyroid Disorder

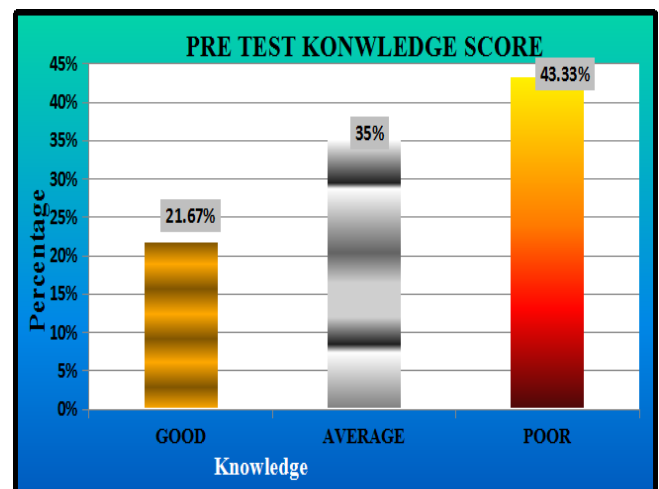


Figure 1: Percentage distribution of pregnant women according to pre - test knowledge scores

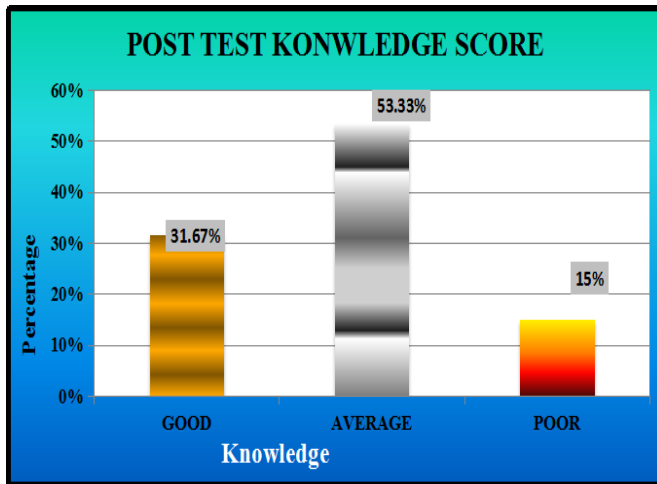


Figure 2: Percentage distribution of pregnant women according to post - test knowledge scores

Section III: Comparison between Pre - test And Post - test On Knowledge score.

Table II: Difference between pre - test and post - test mean knowledge levels

Knowledge	Mean	Standard Deviation	Mean difference	't' value	'p' value	Significant
Pre - test	12.850	5.734	5.817	17.68	0.000	Significant
Post - test	18.667	5.590				

The pre test and post test knowledge means were 12.850 and 18.667 respectively. The standard deviation for pre test and post test were 5.734 and 5.590 respectively. The mean difference was 5.817. The calculated t' value 17.89 is greater than table value (2.0) at degree of freedom 0.05 level. This indicates that planned teaching programme was effective. Hence the research hypothesis (**H₁**) was accepted.

Section IV: Association Between Pretest Knowledge Score with Demographic Variables of Pregnant Women.

In demographic variable, **education** the tabulated Chi - square χ^2 values was 15.51 (df =8) which is less than the calculated χ^2 i. e.40.195 at 5% level of significance. Also the calculated "P"= 0.0000 which is less than the acceptable level of significance i. e. "p"= 0.05, so **education is associated** with their pre - test knowledge score.

In demographic variable, **type of occupation** the tabulated Chi - square χ^2 values was 12.59 (df =6) which is less than the calculated χ^2 i. e.15.667 at 5% level of significance. Also the calculated "P"= 0.016 which is less than the acceptable level of significance i. e. "p"= 0.05, so **type of occupation is associated** with their pre - test knowledge score.

In demographic variable **monthly income**, the tabulated Chi - square χ^2 values was 12.59 (df =6) which is less than the calculated χ^2 i. e.17.263 at 5% level of significance. Also the calculated "P"= 0.008 which is less than the acceptable level of significance i. e. "p"= 0.05, so **monthly income is associated** with their pre - test knowledge score.

Section V: Testing of Hypotheses

H₁: There will be significant difference between pre - test & post - test level of knowledge regarding management of thyroid disorder among pregnant women.

To find out significant difference between pre - test & post - test level of knowledge regarding management of thyroid disorder among pregnant women paired t –test was used. Table II show that the pre - test and post - test knowledge means were 12.850 and 18.667 respectively. The standard deviation for pre - test and post - test were 5.734 and 5.590 respectively. The mean difference was 5.817. The calculated t' value 17.68 is greater than table value (2.0) at degree of freedom 0.05 level. This indicates that planned teaching programme was effective. Hence the research hypothesis (**H₁**) was accepted.

H₂: There will be significant association between the post - test level of knowledge among pregnant women with their selected demographic variable.

Chi - square value was calculated to find out the association. The result shows that the calculated value is greater than (at 0.05 level) tabulated value for variables; **education, type of occupation and monthly family income** of the pregnant women regarding management of thyroid disorder among pregnant women was significantly associated with pretest knowledge, hence research hypothesis **H2 Accepted**.

7. Discussion

The findings of the study have been discussed with reference to the objectives of the study and other study findings

1) Description of demographic characteristics of the samples

Percentages wise distribution of samples according to their age group depicts that highest percentage 24 (40%) pregnant women were in age group between 21 - 30 years, followed by 23 (38.33%) pregnant women were in age group between 31 - 40 years and 10 (18.33%) pregnant women were in age group of below 20 years and only 3 (5%) pregnant women were in age group above 50 years.

2) Assessment of the knowledge score of pregnant women regarding management of thyroid disorder before the administration of planned teaching programme.

The knowledge of pregnant women regarding management of thyroid disorder was assessed by using self - structured questionnaire.

The findings of the study revealed that majority of the pregnant mother 26 (60%) had poor knowledge, 21 (35%) had Average knowledge and 13 (21.67%) had good knowledge regarding management of thyroid disorder.

3) Assessment of the score of pregnant women regarding management of thyroid disorder after the administration of planned teaching programme.

The study finding shows that the majority of the pregnant mother 19 (31.67%) had good knowledge, 32 (53.33%) had Average knowledge and 9 (15%) had good knowledge regarding management of thyroid disorder.

4) **Comparison between the mean pretest & post - test knowledge scores on management of thyroid disorder among the subjects.**

The pre - test and post - test knowledge means were 12.850 and 18.667 respectively. The standard deviation for pre - test and post - test were 5.734 and 5.590 respectively. The mean difference was 5.817. The calculated t' value 17.89 is greater than table value (2.0) at degree of freedom 0.05 level. This indicates that planned teaching programme was effective.

5) **Association between pre - test knowledge score regarding management of thyroid disorder among pregnant mothers attending OPD in selected hospital with their selected demographic variable.**

Chi - square value was calculated to find out the association. The result shows that the calculated value is greater than (at 0.05 level) tabulated value for variables; education, type of occupation and monthly family income of the pregnant women regarding management of thyroid disorder among pregnant women.

8. Conclusion

The main aim of the study was to assess the knowledge among pregnant women attending antenatal OPD regarding management of thyroid disorder and to administer a planned teaching programme based on management of thyroid disorder among pregnant. The planned teaching programme helps the pregnant women to enhance their knowledge regarding management of thyroid disorder among pregnant.

The following conclusions were drawn on the basis of the findings of the study:

- 1) The knowledge scores among most of the pregnant women were average.
- 2) The planned teaching programme regarding management of thyroid disorder among pregnant women attending antenatal OPD helps them to learn more about the management of thyroid disorder.

There was significant association between pre - test knowledge scores with selected demographic variable, education, type of occupation and monthly family income of the pregnant women.

9. Future Scope

Nursing Service

Health education is an important tool for the healthcare agency. It is consistent with promoting health as well as reducing illness. The extended and expanded role of the professional nurses emphasizes more on the preventive and promotive aspects of health. Community health nurses are key persons of the health team; they play a major role in health promotion and maintenance awareness regarding management of thyroid disorder among pregnant mothers in the family and communities. It is a practicing profession; hence the researchers generally integrate findings into practice.

Nursing Education

Though the content of general nursing and B. Sc nursing, M. Sc nursing provide information and experience in health

education, it is essential to provide opportunity for the students to educate pregnant mother and family members regarding pregnant mother in both community and clinical setting.

Nursing Administration

The nurse administration should take active part in the health policy making and develop practical information guide sheet, planned teaching programme regarding management of thyroid disorder of pregnant women both in the hospital and community settings. Administration in both private and government sectors should take initiative action to update the knowledge regarding management of thyroid disorder of pregnant women. Administration should make use of the educational departments and provide awareness programme to the public.

Nursing Research

In India only few research studies have been done on knowledge of pregnant women regarding management of thyroid disorder. This study revealed that there is deficiency in knowledge about regarding management of thyroid disorder among pregnant mothers the study suggests that replication of the study in different settings.

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