

## INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH



# A DESCRIPTIVE STUDY TO ASSESS THE DETERMINANTS AND KNOWLEDGE REGARDING HYPOTHYROIDISM AMONG ANTENATAL MOTHERS ATTENDING OUTPATIENT CLINIC IN A SELECTED GOVERNMENT HOSPITAL TAMBARAM, CHENGALPATTU

## Nursing

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## ABSTRACT

**Background:** Hypothyroidism is a common disorder in which the thyroid gland cannot produce enough hormone to meet the body's demand. Thyroid diseases are questionable along with the commonest endocrine disorders worldwide in which hypothyroidism is supposed to be a common health problem in India. Thyroid hormones control metabolism, growth, body temperature, menstrual cycle, the functioning of the lung, the heart, muscle strength and ancillary vital organs. **Aims And Objective:** To assess the determinants and knowledge regarding hypothyroidism among antenatal mothers. **Methodology:** Quantitative research approach, descriptive cross sectional research design was used for the study. 78 antenatal mothers were selected using convenient sampling techniques. The study was conducted at GH Chrompet, Chennai. Semi-structured questionnaire was used to assess the knowledge on hypothyroidism. **Results:** The result showed that 54 mothers (69.2%) had needs to improve, 23 (29.05%) had moderately adequate knowledge, and 1 (1.3%) had adequate knowledge. The findings revealed that Weight, BMI and TSH levels were the determinants of hypothyroidism among antenatal mothers. The calculated chi square value showed statistically significant association between the level of knowledge with demographic variables such as, menstrual cycle, weight, BMI, TSH value and history of Polycystic Ovarian Diseases.

## KEYWORDS

Antenatal mothers, Hypothyroidism, level of knowledge

## INTRODUCTION

The Thyroid is a small butterfly shaped endocrine gland situated in the lower part of the front side of the neck. It has two lobes on either side of the trachea which are connected in the middle by an isthmus. Normally, the weight of thyroid is about 20-40gm in adults. Thyroid gland is larger in female than male. The primary function of thyroid gland is to secrete triiodothyronine ( $T_3$ ) and thyroxine hormone ( $T_4$ ).

Thyroid gland regulates the growth and development and metabolic rate. It plays a major role in controlling heart rate, stimulate synthesis of proteins and carbohydrate and used for sexual maturation. Iodine is required for proper functioning of thyroid gland.

Hypothyroidism is a common disorder in which the thyroid gland cannot produce enough hormone to meet the body's demand. Thyroid hormones control metabolism, growth, body temperature, menstrual cycle, the functioning of the lungs, heart & muscle strength and ancillary vital organs.

Thyroid hormones play a crucial role in normal development of the brain and nervous system in the baby. During the first trimester, baby depends on the mother for supply of thyroid hormone through placenta. At around 12 weeks, baby's thyroid gland starts to work on its own; but it does not make enough thyroid hormone until 18-20 weeks of pregnancy.

## STATEMENT OF THE PROBLEM

A descriptive study to assess the determinants and knowledge regarding hypothyroidism among antenatal mothers attending outpatient clinic in a selected Government Hospital, Tambaram, Chengalpattu.

## OBJECTIVES

- 1.To assess the determinants and knowledge regarding hypothyroidism among antenatal mothers.
- 2.To associate the level of knowledge regarding hypothyroidism among antenatal mothers with their selected demographic variables.

## RESEARCH HYPOTHESIS

$H_{H_1}$ , There will be a significant association between the level of

knowledge regarding hypothyroidism among antenatal mothers with their selected demographic variables.

## MATERIALS AND METHODS

A quantitative research approach, descriptive cross-sectional design was adapted in the study. The study was conducted at Government hospital, Tambaram. The sample size was 78 antenatal mothers who fulfilled the inclusion and exclusion criteria, selected using convenient sampling technique.

## Inclusion criteria:

- Antenatal mothers who are present at the time of data collection.
- Antenatal mothers who are diagnosed with hypothyroidism.
- Antenatal mothers who are able to read and understand Tamil.

## Exclusion criteria:

- Antenatal mothers who are not willing to participate in the study.
- Antenatal mothers who are identified with high-risk pregnancy, gestational diabetes and hypertension.

## DEVELOPMENT AND DESCRIPTION OF THE TOOL:

It consists of two sections:

- Section A- Demographic data
- Section B- Semi-Structured questionnaire.

## Section A: Demographic data

It contains the demographic variables such as age, Education, Monthly income, Weight, BMI, Dietary pattern, Previous history of hypothyroidism, No.of.gravida, No.of.para, History of abortion, History of Pre-term delivery, still birth, Age at menarche, History of Hypertension, History of Diabetes mellitus, History of menstrual cycle, Frequency of menstrual cycle, Frequency of menstrual cycle, Duration of menstrual bleeding, History of Polycystic Ovarian Disease.

## Section B- Semi-structured questionnaire

Semi-structured questionnaire was used to assess the knowledge regarding hypothyroidism. It consists of 20 multiple choice questions to assess the knowledge and awareness on thyroid disorders and impact of thyroid disorders during pregnancy. Each correct answer

was given "1" mark and "0" mark for the wrong answer.

#### DATA COLLECTION PROCEDURE:

- This study was conducted at antenatal clinic, Tambaram Government Hospital during the month of February for about one week. Verbal consent was obtained from the Nursing Superintendent. Written informed consent was obtained from the antenatal mothers attending antenatal clinic, after explaining the purpose of the study. 78 participants were selected by using convenient sampling technique.
- The demographic data was collected and thyroid function test results were reviewed. The semi- structured questionnaire was used to assess the knowledge regarding hypothyroidism.

#### RESULTS

##### Frequency and percentage distribution of demographic variables of the antenatal mothers.

The study showed that most of the antenatal mothers, 32(41%) were aged between 23 – 26 years, 32(41%) had higher secondary level of education, 28(35.9%) had family monthly income of Rs.10,001 – 15,000 and 57(73.1%) were non-vegetarian.

##### Frequency and percentage distribution of clinical variables of the antenatal mothers

The study showed that most of the antenatal mothers, 46(59%) had previous history of hypothyroidism, 40(51%) mothers taken regular treatment for 1 year, 38(48.7%) were of 2<sup>nd</sup> gravida, 40(51.3%) were primi para, 64(82.1%) had no history of abortion, 76(97.4%) had no history of pre-term / still birth, 22(28.2%) were aged 15 years at the time of attained menarche, 66(84.6%) had regular menstrual cycle, 59(75.6%) had duration of menstrual bleeding for <5 days, 66(84.6%) had no history of PCOS and 30(38.5%) were in 3<sup>rd</sup> trimester.

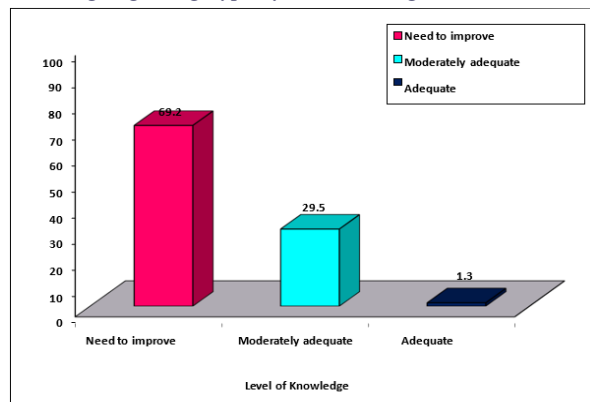
**Table No.1 Assessment of determinants of hypothyroidism among antenatal mothers**

N=78

| Variables | Weight | BMI   | TSH  |
|-----------|--------|-------|------|
| Mean      | 64.74  | 26.38 | 3.99 |
| S.D       | 12.94  | 5.01  | 1.72 |

The table 1 showed that the average score of weight, BMI and TSH level were 67.74±12.94, 26.38±5.01 and 3.99±1.72 respectively. The findings revealed that Weight, BMI and TSH levels were the determinants of hypothyroidism among antenatal mothers.

**Figure 1: Frequency and percentage distribution of level of knowledge regarding hypothyroidism among antenatal mothers.**



The figure 1 shows that 54(69.2%) had need to improve, 23(29.5%) had moderately adequate knowledge and only one (1.3%) had adequate knowledge, mean score is 9.35, standard deviation is 3.14, median is 9.0 of knowledge.

##### Association of level of knowledge regarding hypothyroidism among antenatal mothers with their selected demographic variables.

The study shows that the demographic variables menstrual cycle ( $\chi^2=6.359$ ,  $p=0.042$ ) and history of PCOS ( $\chi^2=6.971$ ,  $p=0.031$ ) had statistically significant association with level of knowledge regarding hypothyroidism among antenatal mothers at  $p<0.05$  level and the other demographic variables did not show statistically significant association with level of knowledge regarding hypothyroidism

among antenatal mothers at  $p<0.05$  level.

#### DISCUSSION

The mean score of weight, BMI and TSH level were 67.74±12.94, 26.38±5.01 and 3.99±1.72 respectively. The findings revealed that Weight, BMI and TSH levels were the determinants of hypothyroidism among antenatal mothers. 46 (59%) mothers had previous history of hypothyroidism 37(47.4%) mothers were primi gravida, 40 (51.3%) were primi para mothers and 22(28.2%) had attained menarche at the age of 15 years.

The study was supported by Lorena M et.al., (2016) conducted a prospective study to assess the determinants of hypothyroidism among 720 healthy women attending their first prenatal consultation at an outpatient clinic. Thyroid function (Thyroid stimulating hormone, Free Thyroxine, Total Triiodothyronine) and anti-thyroid peroxidase antibodies (TPOAb) and BMI were assessed at 8.88±2.4 weeks of gestational age. Median TSH value were higher, median free thyroxine(FT4) values were lower in obese patients compared with normal weight patients. BMI had a small but statistically significant effect on Thyroid Stimulating Hormone.

The study was supported by Arash D et.al., (2018) conducted a cohort study to assess the reference range and determinants of thyroid function during early pregnancy of 2314 pregnant women with gestational age up to 22 weeks who visited antenatal care centers. Participating families provide a written consent for participation for collecting blood samples and urine sample, data on weight, height, smoking status based on questionnaire. Exposure to tobacco, smoke as assessed by questionnaires and serum creatinine, was associated with lower Thyroid Stimulating Hormone and higher Free Thyroxine(FT3) and Total Triiodothyronine (TT3). Body mass index (BMI) and gestational age were the main determinants of Thyroid stimulating hormone (TSH), Free thyroxine (FT4), Free triiodothyronine (FT3), Total triiodothyronine (TT3), Total thyroxine .

In the level of knowledge 54 mothers (69.2%) had needs to improve, 23 (29.05%) had moderately adequate knowledge and 1(1.3%) had adequate knowledge.

The study finding was similar to Gitumoni Konwar et.al., (2019) conducted a cross-sectional descriptive study to assess the level of knowledge and awareness among 40 women in the age group of 20 -40 years in Assam, using structured questionnaire. Purposive sampling technique was used. The result revealed that 90% of the women had inadequate, 10% of women had moderately adequate and none of the responded had adequate knowledge and awareness regarding thyroid disorder and its impacts during pregnancy.

In association it shows that the demographic variables menstrual cycle ( $\chi^2=6.359$ ,  $P=0.042$ ) and history of polycystic ovarian syndrome ( $\chi^2=6.971$ ,  $P=0.031$ ) had shown statistically significant association with level of knowledge regarding hypothyroidism at  $p<0.05$  level and the other demographic variables had not demonstrated statistically significant association with level of knowledge and selected demographic variables among antenatal mothers

Hence the research hypothesis  $H_2$  stated that there is association of level of knowledge regarding hypothyroidism among antenatal mothers with their selected demographic variables was accepted.

The study was supported by Archana M et.al., (2016) conducted a study to assess the knowledge of hypothyroidism among antenatal mothers by selecting 30 samples of first trimester by using convenience sampling technique. The tool and the technique were structured questionnaire. The study revealed that most of the antenatal mothers 50% had average knowledge 43.33% of antenatal mother had good knowledge of hypothyroidism and there was no significant association between the knowledge level with selected socio demographic variables at 0.05 level of significance.

This study was supported by Almuzaini et al.(2019) conducted a cross-sectional study among 367 adult residents in Saudi Arabia. Statistical analysis showed that 140(57.32%) of respondents had good knowledge, whereas 188 of them (42.68%) had poor knowledge of thyroid disorder. Age, Sex, education, and occupation had no significant effect on the knowledge level of the respondents.

#### CONCLUSION

The study revealed that majority of the antenatal mothers had less awareness regarding hypothyroidism. Thyroid Stimulating Hormone level, BMI and weight were the determinants of hypothyroidism. This concludes that the determinants and knowledge may influence the occurrence of hypothyroidism among antenatal mothers. Maintaining weight approximate to gestational age and early screening of Thyroid Stimulating Hormone level will help the antenatal mothers to prevent complications during pregnancy.

**VII SOURCE OF SUPPORT:** None

**VIII CONFLICT OF INTEREST:** None declared

#### **IX ACKNOWLEDGEMENT**

The researchers are thankful for

- The Institutional Ethical committee members for their valuable guidance and suggestions.
- The study participants who extended their cooperation in the data collection process.

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