PREVALENCE OF THYROID DISORDERS AMONG ADOLESCENT GIRLS VISITING GYNAEC OPD AT NMCH, NELLORE, ANDHRA PRADESH

Abstract

Background: Adolescence is a period of transition from childhood to adulthood in which there will be multiple changes in the body, mind and social relationship. The proper thyroid function is vital to have a healthy reproduction system. The well functioning thyroid system is necessary to lead a healthy reproduction system among adolescents, especially girls. Disturbances in the thyroid hormones and its components which will affect the female sex hormones and causing issues in fertility. Due to imbalances in the thyroid hormones, there are reproductive system disorders such as menstrual irregularities, weight gain, and infertility etc.

Aim: The aim of the study was to assess the prevalence of thyroid disorders among adolescent girls.

Objectives: 1.To assess the prevalence of thyroid disorders among adolescent girls. 2. To associate the prevalence of thyroid disorders among adolescent girls with selected socio demographic variables.

Methodology: 60 adolescent girls attending Gynaec OPD and IPD at Narayana Medical college Hospital, Nellore were selected by using convenience sampling technique.

Results: The study concluded that the symptoms of thyroid disorder among 60 adolescent girls, 40 (66%) had no symptoms, 15(25%) had mild symptoms, 5(9%) had moderate symptoms and none of them had severe symptoms.

Keywords: Prevalence, Thyroid Disorders, Adolescent Girls.

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I. INTRODUCTION

Adolescence is a period of transition from childhood to adulthood in which interlocking changes in the body, mind and social relationship take place. The proper thyroid function is vital to have a healthy reproduction system. The well functioning thyroid system is necessary to lead a healthy reproduction system among adolescents, especially girls. Disturbances in the thyroid hormones and its components which will affect the female sex hormones and causing issues in fertility. Due to imbalances in the thyroid hormones, there are reproductive system disorders such as menstrual irregularities, weight gain, and infertility etc. The female infertility is also adversely affected by thyrotoxicosis and myxedema. The simultaneous existence of autoimmunity which is present among some portion of pregnant women may aggravate the clinical manifestation of thyroid disorders in female reproductive physiology. Abortion, premature infants, low birth infant, among clinical presentation of overt hypothyroidism.

If hyperthyroidism is left untreated or is not treated properly, a life-threatening complication called thyroid storm (extreme over activity of the thyroid gland) can occur. Symptoms include: Confusion, coma, fever high blood pressure, irregular heartbeat, which can be fatal jaundice associated with liver enlargement, mood swings, muscle wasting restlessness shock weakness and the thyroid storm need to be considered as medical emergency. Hence, the normal functioning of thyroid gland is essential to have a successful reproductive life among teenage population.

II. NEED FOR THE STUDY

Thyroid diseases are common worldwide. Hypothyroidism was found in 4.6% of the U.S. population which is 0.3% clinical and 4.3% subclinical and hyperthyroidism is 1.3% (0.5% clinical and 0.7% subclinical). Thyroid Stimulating Hormone (TSH) and the prevalence of anti-thyroid antibodies were higher in females, which had positive co-relation with increased age, and are greater in number among whites and Mexican Americans than in blacks.

The prevalence of hypothyroidism in the developed world is estimated to be about 4-5% while subclinical hypothyroidism is estimated to be about 4-15%. In India, for a long time it was Iodine deficiency disorders which was more prevalent as the consumption of iodine was very less i.e 13-15. It was found from the various studies that, around 42 million people in India suffer from any form of thyroid diseases. There are few common thyroid diseases in India such as, hypothyroidism, hyperthyroidism, goitre and iodine deficiency disorders, Hashimoto's thyroiditis, and thyroid cancer.

A population-based research study was performed in Cochin, Kerala among 971 adults to identify the prevalence of hypothyroidism (3.9%). The prevalence of subclinical hypothyroidism was also high in this study (9.4%). In women, the prevalence was higher, at 11.4%, when compared with men, in whom the prevalence was 6.2%. The study found that prevalence of subclinical hypothyroidism had positive correlation with age. About 53% of subjects with subclinical hypothyroidism were positive for anti-TPO antibodies. Urinary Iodine status was also studied in the same subjects and found the median value was 211µg/l; this suggested that this population was iodine sufficient.

III. STATEMENT OF THE PROBLEM

A study to assess the prevalence of thyroid disorders among adolescent girls visiting Gynaec OPD at NMCH, Nellore, A.P

IV. OBJECTIVES OF THE STUDY

1. To assess the prevalence of thyroid disorders among adolescent girls.
2. To associate the prevalence of thyroid disorders among adolescent girls with selected socio demographic variables.

V. DELIMITATIONS

The study is limited to;
1. Adolescent girls aged between 13-19 years
2. 2. Adolescent girls visiting Gynaec OPD at NMCH, Nellore.
3. The sample size is 60 adolescent girls.

VI. METHODOLOGY

1. **Research Approach:** A quantitative research approach was adopted for the present study.

2. **Research Design:** A descriptive design was adopted for the present study.

3. **SETTING:** This study was conducted among adolescent girls attending Gynaec OPD and IPD at NMCH, Nellore.

VII. POPULATION

1. **Target Population:** Adolescent girls attending Gynaec Opd.

2. **Accessible Population:** All adolescent girls attending Gynaec OPD and IPD at Narayana Medical college Hospital, Nellore.

VIII. SAMPLE

A sample of 60 adolescent girls who attending Gynaec OPD & IPD and who fulfilled the sampling criteria.

IX. SAMPLE SIZE

The Sample size for the Present study was 60 samples.

X. SAMPLING TECHNIQUE

Non probability convenience sampling technique

XI. CRITERIA FOR SAMPLE COLLECTION

1. **Inclusive Criteria:** Adolescent girls aged between 12 to 19 attending Gynaec OPD, at NMCH, Nellore.

2. **Exclusion Criteria:** Adolescent who are not willing to participate in the study.

XII. VARIABLES

1. **Research Variable:** The prevalence of thyroid disorders.

2. **Demographic Variables:** It includes age, education, religion, family type, marital status, co-morbid disease, family history of thyroid disorder, and dietary pattern.

XIII. DESCRIPTION OF THE TOOL

1. **Part A:** It deals with demographic data

2. **Part B:**-A Check list to assess the prevalence of thyroid disorders .It has 18 items with minimum score of 0 and maximum score of 18.

XIV. SCORE INTERPRETATION

Score Interpretation	Scoring
Mild Symptoms	1-6
Moderate Symptoms	7-12
Severe Symptoms	13-18

XV. PILOT STUDY

After obtaining formal permission from the concerned authority and instuitional ethical committee, the pilot study was conducted in Gynaec OPD in Narayana hospital Nellore. Written consent was obtained from patients and 3 patients were selected by non-probability convenience sampling technique. The data was collected by using check list for assess the prevalence of thyroid disorders. Data was analyzed by using descriptive and inferential statistics.

XVI. DATA COLLECTION PROCEDURE

Formal permission was obtained from the Institutional Ethical Committee. The duration of data collection is for 6 weeks. 60 adolescent girls were selected by using non-probability convenience sampling technique, data collection procedure was carried out. Adolescent girls informed about the purpose of the study and their written consent was obtained. Data was collected by using check list to assess the prevalence of thyroid disorders, it took 10- 15 minute for each individual for completing the check list , that was obtained from 9am –5pm. The data was organized according to objectives and the collected data was analyzed by using descriptive and inferential statistics.

XVII. DATA ANALYSIS & DISCUSSION

Table 1: Frequency and Percentage Distribution of Adolescent Girls Based on Prevalence of Thyroid Disorders
(N=60)

Symptoms of Thyroid Disorder	Frequency	%
No symptoms	40	66
Mild symptoms	15	25
Moderate symptoms	5	9
Severe symptoms	-	-
Total	**60**	**100**

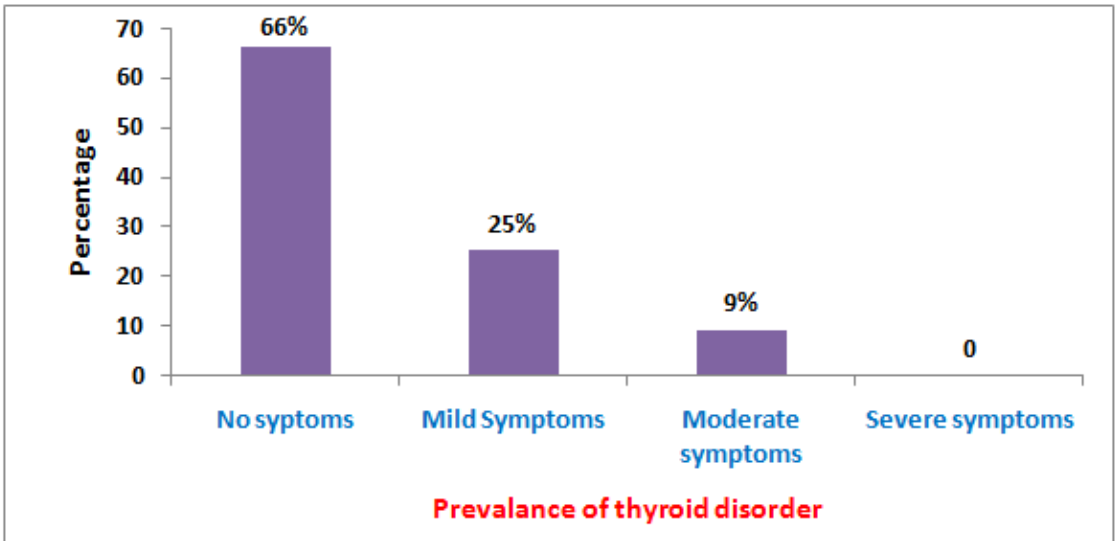

Figure 1: Frequency and Percentage Distribution of Adolescent Girls Based on Prevalence of Thyroid Disorders

Table 2: Mean and Standard Deviation of Prevalence of Thyroid Disorders Among Adolescent Girls
(N=60)

Category	Mean	Standard Deviation
Adolescent girls	2.142	10.13

Table 3: Association Between Prevalence of Thyroid Disorders Among Adolescent Girls with their Selected Socio Demographic Variables (N=60)

S. No	Demographic Variables	No Symptoms	Mild Symptoms			Moderate Symptoms		Chi-Square (χ^2)
		F	%	F	%	F	%	
1.	**Age in years** a. 10-12 b. 13- 15 c. 16-19	 10 20 10	 16 34 16	 2 11 2	 3 19 3	 1 3 1	 2 5 2	C=2.164 T=9.49 df=4 P<0.05 **NS***
2.	**Education** a)No formal education b)Primary education c) Secondary education d)Intermediate e)degree	 5 22 10 1 2	 8 36 16 2 3	 9 3 2 - 1	 15 5 3 - 2	 1 1 1 1 1	 2 2 2 2 2	C=17.130 T=21.03 df=12 P<0.05 **NS***
3.	**Religion** a)Hindu b) Muslim c)Christian	 20 10 10	 34 16 16	 9 1 5	 15 2 8	 1 2 2	 2 3 3	C=3.27 T=9.49 df=4 P<0.05 **NS***
4.	**Family type** a) Nuclear b) Joint c)Extended	 10 10 20	 16 16 34	 7 7 1	 12 12 2	 2 2 1	 3 3 2	C=2.810 T=9.49 df=4 P<0.05 **NS***
5.	**Marital Status** a)Single b)Married	 20 20	 34 34	 10 5	 16 8	 3 2	 5 3	C=1.60 T=0.9500 df=2 P<0.05 **S***
6.	**Co-morbid disease** a) Yes b)No	 10 30	 16 50	 10 5	 10 6 - -	 1 4	 2 6	C=19.00 T=0.9500 df=2 P<0.05 **NS***

7.	**Family history of thyroid disorders** a) Yes b) No	15 25	26 42	10 5	16 8	3 2	5 3	C=40.90 T=0.950 0 Df=2 P<0.05 **S***
8.	**Type of diet** a)Vegetarian b)Non vegetarian	20 20	34 34	2 13	3 21	3 2	5 3	C=2.473 T=0.950 0 df=2 P<0.05 **S***

XVIII. MAJOR FINDINGS OF THE STUDY

1. The study showed the symptoms of thyroid disorder among 60 adolescent girls, 40 (66%) had no symptoms, 15(25%) had mild symptoms, 5(9%) had moderate symptoms and none of them had severe symptoms.
2. The mean score of prevalence of thyroid disorders was 2.142 and standard deviation was 10.13.
3. Regarding association between prevalence of thyroid disorders with demographic variables, marital status, family history of thyroid disorder and dietary pattern had significant association with prevalence of thyroid disorder at P< 0.05 level.

XIX. RECOMMENDATIONS

1. A similar study can be done in various settings.
2. A similar study can be conducted on among reproductive age groups.
3. The same study can be conducted among pregnant women to control complications of thyroid disorders.

XX. CONCLUSION

The study concluded that, majority of them 40 (66%) had no symptoms, 15 (25%) had mild symptoms and 5(9%) had moderate symptoms. Still adequate awareness need to be given to the adolescent girls in order to prevent complications on reproductive health related to thyroid disorders.

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