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PREVALENCE RATE, DIETARY PATTERN, NUTRITION INTAKE AND CLINICAL PROFILE 0F THYROID PATIENTS IN SWAROOP RANI HOSPITAL, ALLAHABAD

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Iodine Deficiency Disorders (IDDs) are one of the major worldwide public health problems of today which causes wide spectrum of disabilities. It includes impairment of reproductive functions, lowering of IQ levels in school age children, goiter, deaf mutism, mental defects, weakness and paralysis of muscles as well as lesser degree of physical dysfunction. Objectives: To find out dietary pattern, BMI and prevalence of hypothyroid patient. Research Design: It was across-sectional, descriptive, hospital based survey. Gender based stratification is used to select women subject among whole population. Purposive sampling is used to select women suffering from hypothyroidism. Study was conducted in Swaroop Rani Hospital in Allahabad. Results: Present analysis show that of T3 is high in 30% and T4 is low in 50% of patient and the level of TSH is high in 60% of total respondent. 40% respondents were overweight, and duration of thyroid was 6-10 years in 50% of respondent.

Keywords: Iodine Deficiency Disorders (IDDs), Hypothyroid, T3, T4, TSH

INTRODUCTION

Iodine is an important micro-nutrient required for human nutrition. Iodine Deficiency Disorders (IDDs) are one of the major worldwide public health problems of today which causes wide spectrum of disabilities. It includes impairment of reproductive functions, lowering of IQ levels in school age children, goiter, deaf mutism, mental defects, weakness and paralysis of muscles as well as lesser degree of physical dysfunction. Thyroid disease, including autoimmune thyroid disease and thyroid cancer, has a substantial incidence in the United States (Patrick, 2009). The sTSH is normal , the likelihood of an abnormal FT4 is very small. sTSH alone is adequate to screen outpatients for thyroid dysfunction (Viera *et al.*, 2003). A normal thyroid function is a requisite for the normal mental and physical development of children, and it involves vital functions in the body, e.g., heart rate, respiration, digestion, heat/cold sensitivity, and emotions (Brown *et al.*, 2005). Thyroid hormone secretion pathway is one of the important pathways that regulates growth, development and is considered critical for brain, skeletal development and maturation. Autoimmune Thyroid Disease (AITD) results in damage of the thyroid gland altering the normal secretion of thyroid hormones causing hypothyroidism (Hashimoto's thyroiditis) or hyperthyroidism (graves' disease) (Gupta *et al.*, 2012).

MATERIALS AND METHODS

This study was a cross sectional and descriptive study based on prevalent condition of the population. The newly diagnosed patients of thyroid were chosen as unit of study and Out-Patient Department of Swaroop Rani Nehru Hospital, Allahabad, India were selected as area of the study.

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The sample size of the study was 60 and samples were selected purposively among the population. A pre-tested questionnaire was used to record the socio-demographic detail like age, sex, literacy and income. The biochemical parameters like T3, T4 and TSH were recorded from the recent medical reports of selected patients. The anthropometric such as height and weight were measured to find out BMI of the patients. Some other factors such as duration of thyroid and genetic factor were also recorded. The dietary factors like intake of milk and milk product, whole pulses, sprouts, egg, non-vegetarian items, GLV, salt, canned food, fruits, fruit juice and dry fruits were measured with the help of 24 hour dietary recall and food frequency methods. The data obtained was subjected to statistical analysis by using Arithmetic Mean technique.

RESULTS AND DISCUSSION

The present study was conducted on 60 hypothyroid patients.40% respondents were illiterate and 30% were completed their school education. Among thyroid patients 60% were belongs to low income group. This data reveal that age group with 46-55 year and above 55 year was directly associated with the thyroid while, education and family income were having no significant relationship with occurrence of thyroid.

In this study BMI was normal in 20% respondents while 60% respondents were in overweight and 10% were obese.

In biochemical parameter assessment of selected respondents 60% have high TSH, 30% were associated with high T3 and 50% have low T4.

The duration of thyroid was 6-10 years in 50%, >10 year in 40% and <5 year are present in only 10% of total respondent.

Table 1: Socio-Demographic Data of the Respondents Suffering with Thyroid

Age	25-35 Years	6	10%
	36-45 Years	12	20%
	46-55 Years	18	30%
	Above55 Years	24	40%
Education	Illiterate	24	40%
	Upto Primary	18	30%
	Intermediate	12	20%
	Graduation	6	10%
	Post-Graduation	-	-
Family income	Low Income (?5000 Rs/month)	36	60%
	Middle Income (10000-15000 Rs/month)	24	40%
	High Income (?15000 Rs/month)	-	-

Table 2: Anthropometric and Clinical Observation of the Respondents Suffering with Thyroid

	BMI	Range	Frequency	Percentage
Body Mass Index	Underweight	Below 18	6	10%
	Normal	18-24.9	12	20%
	Overweight	25-29.9	36	60%
	Obese	More than 30	6	10%

Table 3: Biochemical Parameters Observation of the Respondents Suffering with Thyroid

Blood Serum	Categories	Range	Frequency	Persantage
TSH	Low	<.05-4.78	18	30%
	Normal	.05-4.78	6	10%
	High	>.05-4.78	36	60%
T3	Low	<60-200	12	20%
	Normal	60-200	30	50%
	High	>60-200	18	30%
T4	Low	<4.50-12.60	30	50%
	Normal	4.50-12.60	18	30%
	High	>4.50-12.60	12	20%

Table 4: Non-Modifiable Risk Factors Associated with Patients of Thyroid

	Categories	Frequency	Percentage
Duration of thyroid	<5 years	6	10%
	6-10 years	30	50%
	>10 years	24	40%

Table-5: Food Consumption Pattern of the Respondents Suffering with Thyroid

Milk and Milk Products	Once in a week	30	50%
	2-3 times in a week	12	20%
	Daily	18	30%
Whole pulses, Sprouts	Once in a week	18	30%
	2-3 times in a week	30	50%
	Daily	12	20%
Egg and Non-veg items	Once in a week	24	40%
	2-3 times in a week	18	30%
	Daily	-	-
GLV, other vegetables	Once in a week	24	40%
	2-3 times in a week	12	20%
	Daily	24	40%
Cereals	Once in a week	-	-
	2-3 times in a week	-	-
	Daily	60	100%
Fruit and Fruit Juice	Once in a week	30	50%
	2-3 times in a week	18	30%
	Daily	12	20%

In this study 50% of respondent take milk product once a week, 50% take whole pulses 2-3 time in a week only20% respondent take daily ,40% eat GLV and other vegetable daily routine,100% of respondent take cereals daily. 50% take fruit and fruit juice only once in week, while 20% of respondent take daily.

CONCLUSION

In this study various modifiable and non-modifiable risk factors of the hypothyroid were examined among the selected respondents and the characteristics present in the respondents shows that diseased condition (hypothyroid) was significantly associated with the middle age, longer duration of thyroid, high BMI. Nutritional factors are also play a very important role in the occurrence of thyroid in the respondents as many patients follow faulty food consumption pattern due to the lack of nutritional awareness. By creating nutritional awareness among them we can reduce the severity of the disease.

Conflict of Interest: Nil

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