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Original Research Article

To identify prevalence of thyroid disorder in tertiary care centre medical staff.

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Abstract

Background & Methods: The aim of the study is to identify prevalence of thyroid disorder in tertiary care centre medical staff. There is no relation between drug addiction and thyroid dysfunctions in patients. Only one thyroid dysfunction patient was noticed among total individuals.

Results: Out of 26 thyroid disorder Patients, each minor symptoms of thyroid disease reported a percentage of fatigability in 22 out of 26 thyroid disorder patients, tachycardia in 14 out of 26 patients, abdominal pain in 12 out of 26 patients, both edema and pallor in 8 out of 26 patients, both hoarseness of voice and neck swelling in 2 out of 26 patients, and murmur in 0%.

Conclusion: Thyroid dysfunction was observed to be common among women in our study. The study was carried out on 90 random individuals. Out of these 26 cases suffering from Thyroid dysfunction i.e. contributed to about 29% out of total patients. There is a BMI rate that was observed maximum in Subclinical Hypothyroidism and hypothyroidism (23.62±0.23 and 23.59±0.19, respectively). Minimum BMI rate was observed in Hyperthyroidism i.e. 21.9±0.00. Anxiety disorder and thyroid dysfunction was noticeable maximum in individuals. The anxiety develops in patients with thyroid dysfunction. Anxiety was observed in around 88% of patients with thyroid dysfunction.

Keywords: prevalence, thyroid, disorder & medical.
Study Design: Observational Study.

1. INTRODUCTION

Thyroid function abnormalities are quite frequent worldwide, and their frequency varies greatly by geography. Thyroid disorders are also common in India. In the opinion of projections from several research on thyroid dysfunction, approximately 40 million individuals in India suffer from thyroid dysfunction[1].

The epidemiology of 5 prevalent thyroid disorder in India: hyperthyroidism, hypothyroidism, iodine deficient disorders and goitre, Hashimoto's thyroiditis, and thyroid cancer. Determining the proper reference range for thyroid hormones in India is presently under work, with a focus on youngsters and pregnant women[2].

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Thyroid problems are, undoubtedly, one of the most common endocrine abnormalities wide-reaching. India is no exception[3]. In order to projections from several research on thyroid disease, around 42 million individuals in India suffer from thyroid problems.

Thyroid illnesses differ from other ailments in terms of simplicity of analysis, convenience to therapeutic therapy, and the comparative perceptibility that even a minor thyroid swelling provides to the treating physician[4]. Early diagnosis and therapy remain critical components of management.

These conditions, which include hypothyroidism, hyperthyroidism, thyroid nodules, and thyroid cancer, can significantly affect an individual's metabolic processes and overall health[5]. The prevalence and impact of thyroid disorders within specific populations have been extensively studied, yet there is limited research focusing on healthcare professionals, particularly those working in tertiary care settings[6-7].

Thyroid disease is becoming better recognized as a chronic noncommunicable disease that primarily affects women, while men are not immune. The symptoms of hyperthyroidism and hypothyroidism are fine established, whereas subclinical thyroid conditions can resemble other disorders. Overt thyroid dysfunction is associated with high morbidity and mortality.

2. MATERIAL AND METHODS

STUDY POPULATION:

90 random people who are employed in GRMC [faculty, nursing, paramedical][random sampling] with or without symptoms and signs with biochemical evidence from G.R. Medical College, Gwalior.

90 random staff members will undergo a detailed physical examination at the workplace with relevant history and physical inspection counting symptoms and signs of thyroid disorder will be recorded. Hematological and biochemical workup will include measurement of serum TSH, Serum T3, Serum T4. Socioeconomic status was graded according to modified kuppuswamy scale

INCLUSION CRITERIA:

- >18 years (Faculty, Nursing, Paramedical) currently working in GRMC, Gwalior.
- Known case of thyroid disorder on treatment.

EXCLUSION CRITERIA:

- Pregnant female.
- Medications that affect study like phenytoin.
- Amiodarone.
- Patients with sepsis.

3. RESULT

Table 1: Comparison of age and Thyroid disorder

Age	Frequency (n=26)	(%)	P value
20-25 years	8	31	<0.05
26-30 years	8	31	
31-35 years	7	27	
36-40 years	3	11	

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The ages ranged from 20 to 40 years. An age distribution was calculated. It should be highlighted that the peak of thyroid patients occurred between the ages of 20 to 30 years after that 31 to 35 years and the last and minimum patients involved in 36-40 years of age. The maximum 8 individuals suffered from thyroid at the age of 20-25 and 26 -30 years each and 31-35 years (7 individuals) and the minimum patient of thyroid in between 36 to 40 years of age (3 individuals). The p-value for comparing male and female ages was less than 0.005. As a result, there was statistically significant variation in the age of patients based on their gender.

Table 2: Minor symptoms of Thyroid disorder Patients

Minor Symptoms	Thyroid disorder Patients	Percentage (%)
Fatigability	22	85
Edema	8	31
Hoarseness of Voice	2	8
Abdominal Pain	12	46
Neck Swelling	2	8
Murmur	0	0
Pallor	8	31
Tachy/ Bradycardia	14	54

Out of 26 thyroid disorder Patients, each minor symptoms of thyroid disease reported a percentage of fatigability in 22 out of 26 thyroid disorder patients, tachycardia in 14 out of 26 patients, abdominal pain in 12 out of 26 patients, both edema and pallor in 8 out of 26 patients, both hoarseness of voice and neck swelling in 2 out of 26 patients, and murmur in 0%.

Table 3: Correlation between Thyroid disorder and BMI

THYROID DISORDER	Mean BMI	P value
Hyperthyroidism	21.9±0.00	P<0.001
Hypothyroidism	23.59±0.19	
Subclinical Hypothyroidism	23.62±0.23	

BMI mean was observed to be higher in Subclinical Hypothyroidism followed by Hypothyroidism than Hyperthyroidism. These values are statistically significant at P<0.001.

Table 4: Prevalence of Thyroid disorder

Thyroid Disorder Patients	Present	Absent	Total
	26	64	90

The thyroid patients were 26 out of 90 patients in this study contributed about 29% out of the total patients who were diagnosed with a thyroid disorder.

4. DISCUSSION

Thyroid disorders are the leading cause of noncommunicable diseases in underdeveloped nations. Thyroid illness is the most frequent endocrine system ailment, primarily affecting females globally. The study was carried out on 90 individuals Out of these 26 cases suffering

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from Thyroid dysfunction i.e. contributed to about 29% of the total patients. Previous research found that thyroid dysfunction was more prevalent in women (17%) than men (14%). Earlier research has also found a maximum frequency of thyroid dysfunction in female individuals, similar to previous research from India[8]. The current study also found that females have a higher prevalence i.e. 96% of thyroid dysfunction individuals than males individuals (4%).

The present research was concluded to carry out the prevalence of thyroid dysfunction in focuses of a broad range of age groups. The ages ranged from 20 to 40. An age distribution was calculated. The maximum 31% of individuals suffered from thyroid dysfunction at the ages of 20-25 and 26 -30 years each and 31-35 years (27% of individuals) and minimum patients of thyroid between 36 and 40 years of age (11% of individuals) [9]. The p-value for comparing male and female ages was less than 0.005. As a result, there was statistically significant values of the age of patients based on their gender. In an earlier study, the maximum frequency of thyroid dysfunction in the age range between 20-45 years may be due to a minimum number of subjects as related to ≥ 46 years. The prevalence rate increased with age, and a similar prevalence rate has been reported from population-based studies done from Cochin (3.9%) and Delhi (4.2 %).

Hypothyroidism was the second commonest thyroid abnormality seen in 4.2 % of subjects in the study. The present study also concludes that the maximum number of patients were observed with Hypothyroidism (54% of individuals), followed by Subclinical Hypothyroidism (42% of individuals) and then Hyperthyroidism (4% of individuals). Only 4% of male individuals were affected by Subclinical Hypothyroidism and 0% of individuals noted hypothyroidism and hyperthyroidism among 26 patients affected by thyroid. Maximum female thyroid patients were affected by thyroid dysfunction[10]. Nevertheless, the previous research frequency rate of hypothyroidism varies from 9 to 22 % based on the study.

Minor symptoms like Fatigability, edema, Hoarseness of Voice, Abdominal Pain, Neck Swelling, Murmur, Pallor and Tachycardia/ Bradycardia of thyroid dysfunction were observed in the present study. Out of 26 thyroid Patients, each minor symptom of thyroid disease reported a percentage of fatigability in 85% of thyroid individuals, tachycardia in 54% of individuals, abdominal pain in 46% of individuals, both edema and pallor in 31% of individuals, both hoarseness of voice and neck swelling in 8% of patients, and murmur in 0%. Previous research found that 13 minor symptoms were statistically significantly represented in hypothyroid[11]. The most common symptoms reported by hypothyroid patients were fatigue (81%), dry skin (63%), and shortness of breath (51%). In thyroids patients become fatigued and Tachycardia/Bradycardia.

5. CONCLUSION

Thyroid dysfunction was observed to be common among women in our study. The study was carried out on 90 random individuals. Out of these 26 cases suffering from Thyroid dysfunction i.e. contributed to about 29% out of total patients. There is a BMI rate that was observed maximum in Subclinical Hypothyroidism and hypothyroidism (23.62±0.23 and 23.59±0.19, respectively). Minimum BMI rate was observed in Hyperthyroidism i.e. 21.9±0.00. Anxiety disorder and thyroid dysfunction was noticeable maximum in individuals. The anxiety develops in patients with thyroid dysfunction. Anxiety was observed in around 88% of patients with thyroid dysfunction.

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