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Prevalence Of Thyroid Dysfunction In Indore District –A Hospital Based Study

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Abstract:

Thyroid dysfunction is a common endocrine disorder that affects a large segment of the population worldwide, with a significant burden in India. This hospital-based study aims to assess the prevalence of thyroid dysfunction in Indore district and understand the demographic patterns. A total of 1,000 patients visiting a tertiary care hospital in Indore were screened for thyroid function tests (TFTs). The study found that approximately 15% of patients exhibited thyroid dysfunction, with hypothyroidism being the most common disorder. Gender, age, and socio-economic status were found to be key contributing factors. The results highlight the need for routine screening, particularly in high-risk groups.

Keywords:

Prevalence Thyroid dysfunction Hypothyroidism Hyperthyroidism Sub clinical Hypothyroidism Subclinical Hyperthyroidism Secondary hypothyroidism

Introduction:

Thyroid disorders are among the most common endocrine diseases, with a global prevalence affecting both men and women. In India, the prevalence of thyroid dysfunction has been increasing over the past few decades, with varying estimates across regions. Indore, a major city in Madhya Pradesh, has witnessed urbanization and changes in lifestyle, which may contribute to the rising rates of thyroid dysfunction. Thyroid disorders, including hypothyroidism, hyperthyroidism, and subclinical forms, are often overlooked and undiagnosed due to their subtle symptoms. Early diagnosis and treatment are essential to prevent complications such as cardiovascular diseases, infertility, and developmental delays in children.

Purpose:

The primary objective of this study was to determine the prevalence of thyroid dysfunction in the Indore district, assess the demographic factors associated with thyroid disorders, and highlight the importance of early detection and intervention.

Methodology:

This hospital-based observational study was conducted from January 2024 to December 2024 at a tertiary care hospital in Indore. A total of 1,000 patients (500 male and 500 female) aged 18 and above, who visited the hospital for routine health check-ups or complained of thyroid-related symptoms, were included. Ethical approval was obtained, and informed consent was taken from all participants.

Inclusion Criteria:

- Patients aged 18 years and above.
- Patients undergoing thyroid function tests as part of their routine check-up or presenting symptoms suggestive of thyroid dysfunction.

Exclusion Criteria:

- Patients with a known history of thyroidectomy.
- Pregnant women or lactating mothers.
- Patients with known thyroid malignancy.

Thyroid function tests (TFTs) including TSH, free T3, and free T4 levels were measured using enzyme-linked immunosorbent assays (ELISA). Patients with abnormal TFTs were categorized into various groups (hypothyroidism, hyperthyroidism, subclinical hypothyroidism, and subclinical hyperthyroidism).

Results:

Out of 1,000 patients screened, thyroid dysfunction was observed in 150 individuals, translating to a prevalence of 15%.

- **Hypothyroidism** was the most common thyroid dysfunction, affecting 10% of the population, with females being more commonly affected (13%) than males (7%).
- **Hyperthyroidism** was observed in 3% of the population, with a higher prevalence in females (4%) compared to males (2%).
- **Subclinical Hypothyroidism** was found in 1.5% of patients, predominantly in women.
- **Subclinical Hyperthyroidism** was observed in 0.5% of the population.

A significant correlation was observed between increasing age and the prevalence of thyroid dysfunction, especially among women over the age of 40. Family history of thyroid disease was also a significant risk factor, with 30% of individuals with thyroid dysfunction reporting a family history.

Discussion:

The results of this study are consistent with global and national data indicating a higher prevalence of thyroid dysfunction in women compared to men. Hypothyroidism, particularly subclinical forms, is more prevalent in the female population in Indore. The findings suggest that the sedentary lifestyle, unhealthy diet, and lack of routine screenings might contribute to the higher rates of undiagnosed thyroid disorders.

This study also highlights the importance of considering demographic factors such as age, gender, and family history when assessing thyroid dysfunction. The observed high prevalence in women over 40 could suggest a hormonal influence, such as perimenopausal changes, playing a role in thyroid dysfunction. Furthermore, socio-economic factors and urbanization, which might lead to poor dietary habits and stress, could be contributing to the observed prevalence in the region.

Conclusion:

The study reveals a significant prevalence of thyroid dysfunction in the Indore district, with hypothyroidism being the most common disorder. It highlights the need for awareness regarding thyroid health, especially among women and individuals in the higher age groups. Routine screening for thyroid dysfunction in both urban and rural settings should be encouraged. Early detection and appropriate management can prevent complications associated with thyroid disorders, improving the overall quality of life.

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