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Assessment of thyroid disorders prevalence in women during reproductive age

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Abstract

Aim: The present study was undertaken to assess the thyroid disorders prevalence in women during reproductive age.

Materials and Methods: The study recruited 100 reproductive women of the age group of 18-45 years. Informed consent was obtained from all the participants and confidentiality of data was maintained. All participants underwent thorough physical examination. All measurements were performed using standard methods in the literature.

Results: Table 1 presents the age group distribution of the participants. Majority of the participants belongs to the age group of 31-40 years. Distribution of thyroid disorders in participants was presented in table no 2. Majority of cases have hypothyroidism disorder when compared with hyper thyroid and euthyroid individuals. Table 3 presents the parity and thyroid disorders. Majority of primiparous women has thyroid disorders when compared with others.

Conclusion: The study results suggest that there is a strong association between the thyroid disorders and the reproductive functions in the women of reproductive age. The study recommends further detailed studies in this area for further understanding the relationship and to plan effective treatment strategies.

Keywords: thyroid disorders, reproductive women, endocrine disorders

Introduction

Thyroid gland is major endocrine gland as it regulates not only the metabolic functions but also the reproductive functions [1]. Disorders of thyroid hormone is on rise in Indian women. It may be due to high level of stress or change in the lifestyle. Detection of these disorders in early stage is much helpful for adequate management [2]. Hence it is needed to assess for thyroid disorders. Increase and decrease in the secretion of thyroid hormones has an impact in the reproductive functions. These effects are more prominent in case of women than men. There will be heavy menstruation due to thyroid disorders which is abnormal [3]. Pain may or may not be present but associated fatigue and lethargy will be seen in these individuals. Due to these effects, there will be severe decline in the quality of life is observed [4]. These disorders may be due to abnormal production of thyroid hormones or there may be abnormality in the receptors of thyroid hormone or TRH. The present study was undertaken to assess the thyroid disorders prevalence in women during reproductive age.

Materials and Methods

Study design: Observational study

Sampling method: Convenient sampling

Study population: The study recruited 100 reproductive women of the age group of 18-45 years. Informed consent was obtained from all the participants and confidentiality of data was maintained. Patients with severe complications were excluded from the study. Un willing participants were excluded from the study. Women undergoing any endocrine therapy or treatment were also excluded.

Data collection: All participants underwent thorough physical examination. All measurements were performed using standard methods in the literature [4-6].

Ethical considerations: The study proposal was approved by the institutional ethics committee after satisfying the queries adequately. The study followed all the guidelines as per the ICMR guidelines. Written informed consent was obtained from all the parents of the participants before the commencement of the study. Information related to the patients was kept confidential.

Data analysis: The statistical software SPSS 18.0 version was used to analyze the data. Data was presented as frequency and percentage.

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Results: Table 1 presents the age group distribution of the participants. Majority of the participants belongs to the age group of 31-40 years. Distribution of thyroid disorders in participants was presented in table no 2. Majority of cases have hypothyroidism disorder when compared with hyper thyroid and euthyroid individuals. Table 3 presents the parity and thyroid disorders. Majority of primiparous women has thyroid disorders when compared with others.

Table 1: Age group of participants

Age in years	Frequency	Percentage
Less than 20	22	22
21-30	18	18
31-40	40	40
More than 40	20	20

Data was presented as frequency and percentage

Table 2: Distribution of thyroid disorders in participants

Thyroid disorder	Frequency	Percentage
Euthyroid	10	10
Hypothyroid	38	38
Sub clinical hypothyroid	30	30
Hyper thyroid	22	22

Data was presented as frequency and percentage

Table 3: Parity and thyroid dysfunction

Parity	Euthyroid	Thyroid dysfunction
Nulliparous	2 (20)	25 (27.7)
Primi parous	4 (40)	30 (33.33)
Multi parous	1 (10)	22 (24.4)
After 2 hours	3 (30)	13 (14.4)

Data was presented as frequency and percentage

Discussion

The present study was undertaken to assess the thyroid disorders prevalence in women during reproductive age. Majority of the participants belongs to the age group of 31-40 years. Majority of cases have hypothyroidism disorder when compared with hyper thyroid and euthyroid individuals. Majority of primiparous women has thyroid disorders when compared with others. Thyroid gland is major endocrine gland that regulates multiple functions. It regulates the metabolic functions, systemic functions and also regulated development of brain. It has a main role in the reproductive functions as well. Both decline and increase in the secretions of thyroid hormones has deleterious effects on the reproductive functions.

The cases of thyroid dys-function are on rise worldwide [4]. In India also the same is observed for which there may be multiple causes like family history or lifestyle modifications or excess of stress [7]. Earlier studies reported that there was more cases of hypothyroidism and sub clinical hypothyroidism in the women of reproductive age [8]. The present study confirms the views as we have observed more cases of hypothyroidism when compared with hyper thyroidism. Further, in context of parity, it was reported that those with primi and multi parous were exhibited more thyroid dysfunction [9]. The present study explains that primiparous women showed more thyroid dysfunction than others. The study was conducted at one center so the results can not be generalized. Hence, more studies required involving multi centers to understand these associations further for development of better management strategies.

Conclusion

The study results suggest that there is a strong association

between the thyroid disorders and the reproductive functions in the women of reproductive age. The study recommends further detailed studies in this area for further understanding the relationship and to plan effective treatment strategies.

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Conflicts of interest: None declared

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