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Original Research Article

Prevalence of thyroid disorders in an out-patient department setting: a retrospective study

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ABSTRACT

Background: Disorders of the thyroid gland has become one of the most common endocrine diseases affecting the global population next to Diabetes Mellitus. Data available on the prevalence of thyroid disorders among Indian population is scanty. This study is aimed to investigate the prevalence of thyroid dysfunction in the local population visiting the endocrinology out-patient department of National Homoeopathy Research Institute in Mental Health, Kottayam.
Methods: This is a hospital based retrospective descriptive analysis carried out among the patients attended in the endocrinology out-patient department of National Homoeopathy Research Institute in Mental Health (NHRIMH), Kottayam. Patients with Thyroid disorders who seek treatment from the endocrinology OPD for a period of six months (January 2021 to June 2021) were selected for this retrospective analysis.
Results: Data were collected from the medical records department of NHRIMH and were analyzed based on the age, sex, different types of thyroid disorders and the medicines prescribed including potency.
Conclusions: Females are commonly affected with thyroid disorders and the common age group is between 40 and 49 years. The most common thyroid disorder encountered is hypothyoidism and the most common medicine used is 'thyroidinum'.

Keywords: Retrospective, Endocrinology, Thyroid disorders, Homoeopathy, Thyroidinum

INTRODUCTION

Disorders of the thyroid gland has become one of the most common endocrine diseases affecting the global population next to Diabetes mellitus. According to various reports, around 300 million people in the world are suffering from thyroid disorders.[1,2] The burden of thyroid disorders in India is estimated to be around 42 million.[3] Thyroid hormones have an indispensable role in human body ranging from basic metabolism, growth and even with fertility. Numerous physiological and pathological stimuli are known to influence thyroid metabolism.[1,4] Various factors such as age, sex, dietary habits, stress, and geographical location affect thyroid hormone levels and functions.[1] Thyroid disorders are seen more commonly in women than in men and one in every eight women during their life time has a risk of developing thyroid disorder. Data available on the prevalence of thyroid disorders among Indian population is scanty.[2] According to a cross-sectional, multi-centre, epidemiological study conducted among 5360 subjects of eight major cities in India, the overall prevalence of hypothyroidism was 10.95%, subclinical hypothyroidism was observed in 8.02%, hyperthyroidism in 0.67% and 21.85% subjects tested positive for anti- TPO antibody.[5]

In a study conducted at northern Kerala among 8179 subjects, the overall prevalence rate of thyroid function abnormalities was found to be 15.73%, with a higher rate in females (16.91%) than males (13.90%). The

commonest being subclinical hypothyroidism (7.15%) followed by overt hypothyroidism (4.2%), hyperthyroidism (2.77%) and subclinical hyperthyroidism (1.6%), first 3 conditions being more common in females than males, whereas the last was common with males.[6] Hypothyroidism represents a substantial health problem in India despite extensive universal salt iodization; the prevalence being 11% is considerably higher than in Europe and the USA.[7]

Aim

This study is aimed to investigate the prevalence of thyroid dysfunction in the local population visiting the endocrinology out patient department of NHRIMH, Kottayam.

METHODS

This is a hospital based retrospective descriptive analysis carried out among the patients attended in the endocrinology out-patient department NHRIMH, Kottayam. Patients with thyroid disorders who seek treatment from the endocrinology OPD for a period of six months (January 2021 to June 2021) were selected for this retrospective analysis.

Data were collected from the medical records department of NHRIMH and were analyzed based on the age, sex, different types of thyroid disorders and the medicines prescribed including potency.

RESULTS

Out of the 554 patients selected for the study, 452 (83%) patients were females followed by 49 (9%) males and 43 (8%) children. Out of 43 children, 37 (7%) were females and 6 (1%) were males (Figure 1).

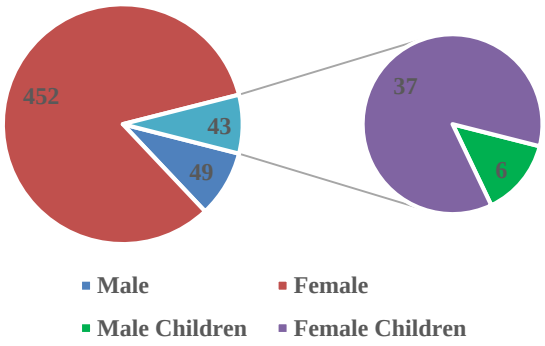

Figure 1: Number of patients according to sex.

The study group was divided in to eight age groups such as 0-9, 10-19, 20-29, 30-39, 40-49,50-59, 60-69 and 70-79 years. 177 patients were reported in the age group between 40 and 49 years followed by 128 patients between 30 and 39 years, 76 patients in 50-59 years, 60 in 20-29 years, 51 between 10 and 19 years, 44 in 60-69 years, 12 in 70-79 years and 6 patients with in 9 years (Figure 2). Five types of thyroid disorders were identified for the patients who visited between January 2021 to June 2021. The identified thyroid disorders were as follows. Out of 554 patients, 231 (42%) patients presented with hypothyroidism, 222 (40%) presented with goitre, 63 (11%) with Hashimoto's thyroiditis, 37 (7%) with hyperthyroidism and 1 (0.1%) patient presented with thyroglossal cyst (Figure 3). With regards to gender and thyroid disorders, they are common in females (Table 1) shows the prevalence of thyroid disorder in different sex (Table 1). Prevalence of thyroid disorders are different in different age group (Table 2) shows the prevalence of thyroid disorders in different age group (Figure 4) (Table 2).

Table 1: Spectrum of thyroid disorders according to sex.

Thyroid disorder	Male	Female	Male child	Female child	Total
Hypothyroidism	18	185	4	24	231
Goitre	19	190	1	2	222
Hashimotos Thyroiditis	3	51	1	8	63
Hyperthyroidism	8	26	0	3	37
Thyroglossal cyst	1	0	0	0	1
Total	49	452	6	37	554

The medicine prescribed for the patients during their visit was also analyzed in the study and the following were found out. Out of 534 patients 39 patients were prescribed with Sacharum Lactis during their first visit were excluded. Remaining 495 patients who were prescribed with medicines were taken for analysis. Of the 495 patients who were prescribed with medicines, Thyroidinum 1M covers maximum number of patients (73) followed by Natrummuriaticum 200 (69), Pulsatillanigricans 200 and Natrummuriaticum 1M (35) and so on. As far as medicines prescribed for different thyroid disorders are concerned, Thyroidinum 1M covers more number of cases in hypothyroidism (45), Spongiatosta covers 24 cases in goitre, Thyroidinum 1M covers 12 cases in hashimotos thyroiditis and 7 cases in hyperthyroidism.

Table 2: Prevalence of thyroid disorders in different age group.

Age group	Hypothyroidism	Goitre	Hashimoto's thyroiditis	Hyperthyroidism	Thyroglossal cyst	Total
0 to 9	2	2	2	0	0	6
10 to 19	27	11	9	4	0	51
20 to 29	37	12	6	5	0	60
30 to 39	62	42	19	5	0	128
40 to 49	66	80	18	13	0	177
50 to 59	27	37	5	6	1	76
60 to 69	9	27	4	4	0	44
70 to 79	1	11	0	0	0	12
Total	231	222	63	37	1	554

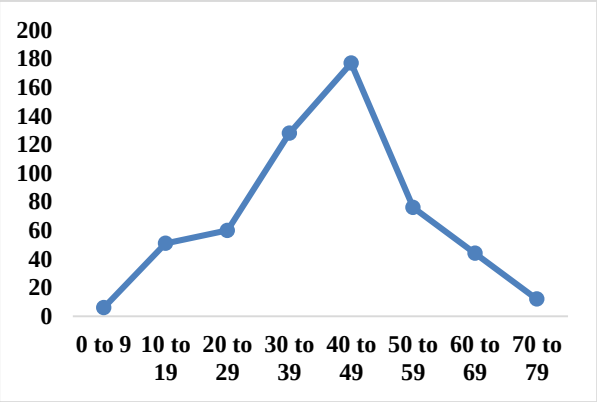

Figure 2: Number of patients according to age.

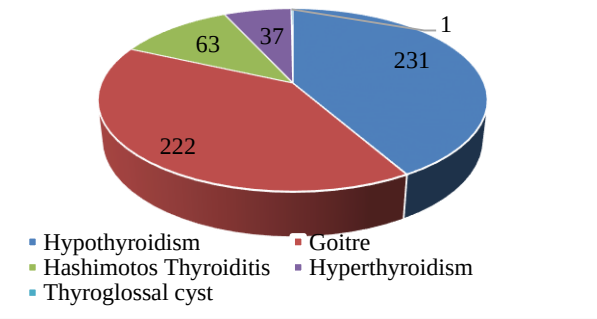

Figure 3: Patients with different types of thyroid disorders.

Out of all the cases, 10 leading medicines were Thyroidinum, Natrummuriaticum, Pulsatillanigricans, Spongiatosta, Calcareacarbonica, Thujaoccidentalis, Sepiaofficinalis, Calcareaphosphorica, Iodum and phosphorus. The various medicines with potencies indicated for various thyroid disorders (Figure 5).

DISCUSSION

This study is a retrospective descriptive analysis conducted among the patients with thyroid disorder who came for treatment in the endocrinology OPD of NHRIHM, Kottayam from January 2021 to June 2021 for a period of six months. 554 patients visited the OPD during this period.

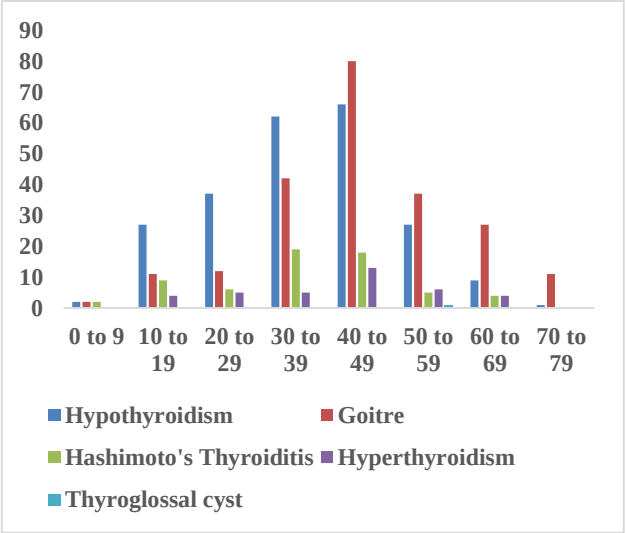

Figure 4: Thyroid disorders according to age.

Out of 554 patients, 452 (83%) were females. In a retrospective study conducted in a medical college hospital in Kerala for a period of five years, out of 1088 thyroid patients, 936 (86%) were females.[8] In a thyroid disorder prevalence study conducted in a tertiary care Hospital, Mumbai revealed that 1826 females were affected among 2076 subjects[2]. According to a prevalence study conducted in Bihar, of the study population, 86.5% were females.[9] All these studies reveal that thyroid disorders are common among females. One in every eight women are prone for thyroid disorder during their life time. The exact cause for female preponderance is unknown. It may be associated with the hormones oestrogen and progesterone.[10]

In this study, the maximum subjects are within the age between 40 and 49 years followed by 30 to 39 years. According to a retrospective study conducted in a Medical College Hospital in Kerala, the maximum subjects are in between 40-60 years followed by 20-40 years which supports our finding.[4] A hospital-based prevalence study of thyroid disorder conducted in Western regions of Nepal concludes that the maximum age group was within 15-44 years.[11] In a prevalence study conducted in the tertiary care hospital in Nepal, the maximum subjects are between 31 and 45 years which

also supports the finding of our study.[12] The most common thyroid disorder encountered in our study was hypothyroidism (42%) followed by goitre (40%). In a retrospective study conducted at a Medical college hospital in Kerala, the most prevailing thyroid disorder is non-toxic Goitre followed by hypothyroidism.[8] In our study hypothyroidism is more than hyperthyroidism which is supported by prevalence study conducted in Mumbai.[2]

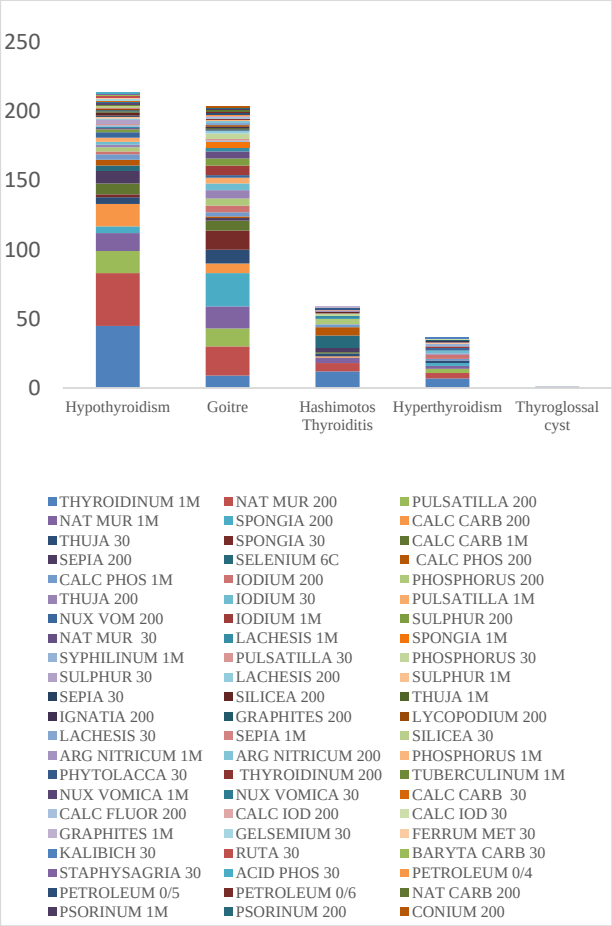

Figure 5: Different medicines prescribed with potencies.

The most common indicated medicines in our study are thyroidinum followed by Natrummuriaticum and Pulsatilla. In a study conducted among patients with Hashimoto's thyroiditis, natrummuriaticum covers the maximum number of patients, which ranks second in Hashimoto's thyroiditis in our study.[13] Thyroidinum covers the majority of cases in our study. Thyroidinum is prepared by the trituration of the dried thyroid gland of sheep and its effects are striking in myxoedema and cretinism. Thyroid exercises a general regulating influence over the mechanism of the organs of nutrition, growth and development and its weakness causes a decided craving for a large amount of sweets. Some symptoms in this medicine are easy fatigue, excessive obesity, goiter, muscular weakness, sweating, dry congested throat with burning.[14]

CONCLUSION

According to this retrospective study, Females are commonly affected with thyroid disorders and the common age group is between 40 and 49 years. The most common thyroid disorder encountered is hypothyoidism and the most common medicine used is thyroidinum.

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