



OVERT HYPOTHYROIDISM; FREQUENCY OF COMMON PRESENTATIONS

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ABSTRACT... Objective: To assess the frequency of common presentations of the overt hypothyroidism. **Study design:** Cross sectional study. **Setting:** This study was conducted at all OPD's of peoples' medical college hospital nawab shah, a tertiary care hospital, from 01-10-2012 to 31-03-2013. **Material and methods:** This study was conducted at all OPDs of Peoples' medical college hospital Nawabshah, a tertiary care hospital, from 01-10-2012 to 31-03-2013. Patients visiting outpatient department (OPD) meeting the inclusion criteria were involved in study. Inclusive criteria were diagnosed cases of overt hypothyroidism, age 18-60 years and both gender. Exclusion criteria were age less than 18 years and more than 60 years and pregnant women. The collected data was entered and analyzed by using Statistical Package for Social Sciences (SPSS) software, Version 17. **Results:** Among 126 patients that had hypothyroidism, there were 46 males(36.5%) and 80 females(63.5%). Mean age of patients was 37.60 ± 7.54 years. Most of the patients presented with symptoms of cold intolerance (62.7%) dry skin (61.9%), pedal edema (57.1%), weight gain(56.3%) while rest presented with hair loss (20.6%), bradycardia (29.4%) & delayed tendon reflexes (27.8%). Overt hypothyroidism was presented in only 21 (16.7%) patients. **Conclusions:** The frequency of Hypothyroidism vary in different areas, and is affected by Socio-demographic, nutritional status, illiteracy level and personal self-care.

Key words: Hypothyroidism, overt hypothyroidism

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INTRODUCTION

Thyroid produces two related hormones, thyroxine (T₄) and triiodothyronine (T₃), which critically play role in cell development, thermogenic and metabolic homeostasis¹. Thyroid hormones have affect over the function of almost every organ, and its dysfunction has consequences of metabolic derangement². The recent study reveals that thyroid stimulating hormone (T.S.H), regulator of thyroid, increases with age culminating in increase propensity of developing subclinical hypothyroidism³.

Hypothyroidism may be primary (autoimmune, iatrogenic, iodine deficient), transient (for example; subacute thyroiditis) or secondary (for example hypopituitarism)¹. The prevalence of thyroid disease has been increased since the increase in routine use of thyroid screening⁴. A

study conducted in cardiac department showed the prevalence of hypothyroidism 8.1% compared to that of hyperthyroidism 6.5%⁵. In our neighboring country, Iran, prevalence of hypothyroidism in iodine repleted area in men was 4.8% and that of women was 12.8%⁶. The female to male ratio in one study 6:1⁷.

The patients with hypothyroidism are more likely to have the sense of lack of well being, varying degree of constitutional symptoms and neuropsychiatric manifestations⁸. The disease presents with insidious onset of symptoms and signs including Lethargy (72%), constipation (70%), body aches (64%), depression (57%), cold intolerance (54%), weight gain(49%), hoarseness (40%), decreased appetite (35%), edema of face(69%), peripheral edema(66%), delayed relaxation of deep tendon reflexes (22%), skin

changes (16%), and hair loss (9%)¹. Thus, hypothyroidism should be suspected in patients who present with nonspecific symptoms⁹.

The morbidity from hypothyroidism is mainly due to osteoporosis, hyperlipidemia, cardiovascular disease and neuropsychiatric disease¹⁰. The risk of coronary heart disease and that of mortality from coronary disease is increased in patients with higher level of T.S.H¹¹.

As the hypothyroidism presents with varying number of nonspecific symptoms, thus allowing this disease to progress to culminate in morbidity and mortality. The disease is potentially treatable, and by knowing the different presentations of this disease, one can make early diagnosis and prevent magnitude of the unnecessary burden of disease and its complications, with improved quality of life and economical burden.

MATERIAL AND METHODS

This study was conducted at all OPDs of Peoples' medical college hospital Nawabshah, a tertiary care hospital, from 01-10-2012 to 31-03-2013. Patients visiting out patient department (OPD) meeting the inclusion criteria were involved in study. Inclusive criteria were diagnosed cases of overt hypothyroidism, age 18-60 years and both gender. Exclusion criteria were age less than 18 years and more than 60 years and pregnant women. The collected data was entered and analyzed by using Statistical Package for Social Sciences (SPSS) software, Version 17.

RESULTS

Among 126 patients that had hypothyroidism, there were 46 males (36.5%) and 80 females (63.5%) with a sex ratio among males vs. female was nearly 1: 2. Mean age of patients was 37.60 ± 7.54 years. Most of the patients presented with symptoms of cold intolerance (62.7%) dry skin (61.9%), pedal edema (57.1%), weight gain (56.3%) while rest presented with hair loss (20.6%), bradycardia (29.4%) & delayed tendon reflexes (27.8%) (Table-I). Overt hypothyroidism was presented in only 21 (16.7%) patients (Figure 1). Out of 21 patients having overt hypothyroidism

most were in age group of 30-48 years and were mostly females (63.5%). Duration of symptoms was mostly 5-10 years in patients with hypothyroidism (fig.2). Chi square value was insignificant.

Variables		Frequency (n=126)	%age
Age	Mean \pm SD	37.60 \pm 7.54	
Sex	Male	46	36.5%
	Female	80	63.5%
Symptoms			
Cold intolerance		79	62.7%
Weight gain		71	56.3%
Dry skin		78	61.9%
Hair loss		26	20.6%
Bradycardia		37	29.4%
Delayed tendon reflexes		35	27.8%
Pedal edema		72	57.1%

Table-I. Demographic & clinical variables among patients

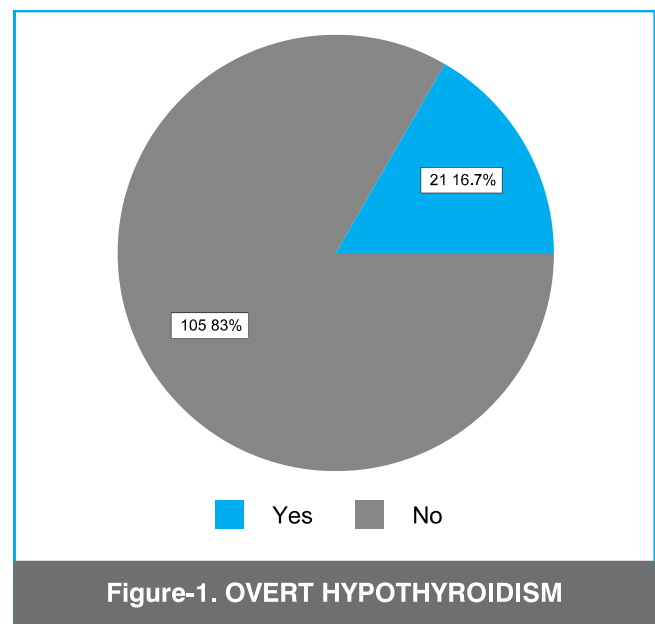
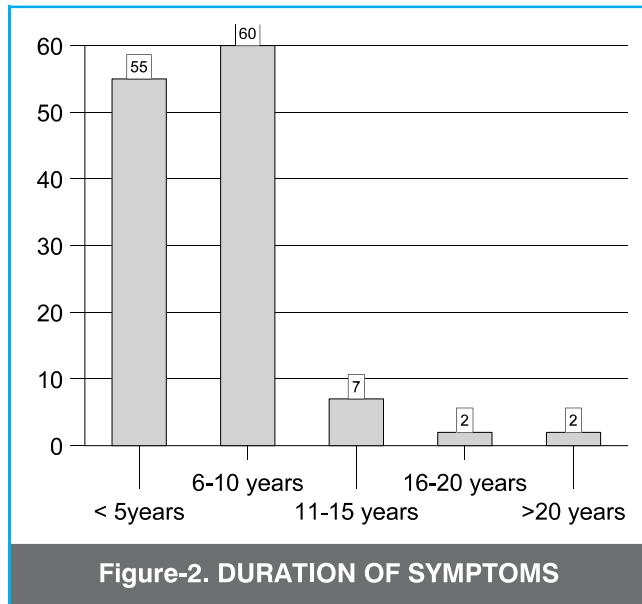


Figure-1. OVERT HYPOTHYROIDISM



DISCUSSION

Hypothyroidism is a condition that is associated with low thyroid hormone production. Nearly around 0.3% of the general American population is affected with overt hypothyroidism¹², and 4 to 8% affected with subclinical hypothyroidism and up to 15% to 18% in women who are over 60 years of age¹². A survey conducted in 1995 by Vander pump et al in the UK found the mean incidence (with 95% confidence intervals) of spontaneous hypothyroidism in women was 3.5/1000 survivors/year (2.8-4.5) rising to 4.1/1000 survivors/year (3.3-5.0) for all causes of hypothyroidism and in men was 0.6/1000 survivors/year (0.3-1.2)¹³.

In our study the incidence of overt hypothyroidism was 16.7% which is higher than reported ones^{14,15,16}. Male to female ratio was twice higher in females, the results were consistent with previous studies conducted in 2001¹⁴ & Iranian study in 2008¹⁶ with high prevalence among females. The age group of patients was mostly in between 30 to 48 years. A study conducted in 2011 showed that about 8% of women over 50 and men over 65 in the UK suffer from an under-active thyroid¹⁷ that differ from our study as most of the presentation was in the age range of 30-48 years. Old age is reported to be risk factor but rising age doesn't seem to be risk factor among our own patient. The

Framingham study found hypothyroidism (TSH >10 mIU/L) in 5.9% of women and 2.4% of men older than 60 years¹⁸. In NHANES 1999-2002, the odds of having hypothyroidism were 5 times greater in persons aged 80 years and older than in individuals aged 12-49 years¹⁹.

The common symptoms at the time of presentation were cold intolerance, pedal edema, weight gain, which are also consistent with symptoms found in Iranian study i-e; tiredness (95.8%), weakness (91.6%), weight gain (85.4%), hoarseness of voice (83.3%a), cold intolerance (77.0%) and constipation (75.0%)& previous reports^{12,15-17}. Physical signs appeared late like delayed tendon reflex, bradycardia & hair loss. No significant correlation was seen with age, gender and duration of disease with hypothyroidism.

CONCLUSIONS

The frequency of Hypothyroidism vary in different areas, and is affected by Socio-demographic, nutritional status, illiteracy level and personal self-care. More large scale studies are required to evaluate its frequency in different parts of country so that effective measures would be taken to overcome burden of disease.

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