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A study on nutritional status and most common symptoms of patients with hypothyroidism

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Abstract

The present study was undertaken to access the dietary pattern of patients with hypothyroidism. The total number of 150 patients taken randomly was covered in the study. The study was carried out on patients (of both sexes and of different age groups) who were previously diagnosed with the help of tests, physical examination and investigations. The data was collected by taking the anthropometric measurements and clinical assessment of the respondents. The study revealed that while majority of the patients were fall in grade-1 obesity and some of the patients were normal as per BMI calculated. Besides calcium, iron and vitamin-A deficiency was found in most of the patients.

Keywords: Clinical assessment, Anthropometry, BMI

Introduction

Hypothyroidism is defined by a decrease in thyroid hormone production and thyroid gland function. It is caused by severe iron deficiency, chronic thyroiditis (Hashimoto's disease), lack of stimulation, radioactive iodine that causes follicle destruction, surgery and pharmacological agents such as lithium and amiodarone, the latter of which is a commonly used antidysrhythmic (Biondi, B, *et al.* 1996) [1]. The American Thyroid Association's Guidelines for Detection of Thyroid Dysfunction suggest a screening model for all patients. It is recommended that patients have a serum thyroid-stimulating hormone-, or TSH-, level screen starting at age 35 years and every five years after that, regardless of sex. People from families with history of and risk factors for thyroid disease may be followed more closely. Risk factors include pernicious anaemia; diabetes mellitus, or DM; previous surgery or radiation to the head and neck region; family history of thyroid disorders; autoimmune disease; and intake of iodine containing medications (for example, contrast media for imaging purposes). Laboratory studies of thyroid function tests are used to confirm a diagnosis of hypo- or hyperthyroidism in symptomatic patients (Ladenson, PW, *et al.*, 2000) [4]. Each individual patient may have any number of symptoms and they will vary with the severity of the thyroid hormone deficiency and the length of the time the body has been deprived of the proper amount of hormone. Children and teens who develop hypothyroidism have the same signs and symptoms as adults do but they may also experience poor growth resulting in short stature, delayed development of permanent teeth, delayed puberty and poor mental development. Symptoms in adults include fatigue, weakness, weight gain or increased difficulty in losing weight, coarse dry hair, dry rough pale skin, hair loss, cold intolerance, muscle cramps and frequent muscle aches, constipation, depression, irritability, memory loss, abnormal menstrual cycles, an elevated blood cholesterol level, brittle finger nails and hair (Luciano., M, 1980) [5].

Methodology

The present study was carried out in Srinagar city. A total number of 150 patients including both men and women were covered for the study. The patients who were diagnosed with the help of tests, physical examination and investigations were included. The data was collected by taking the anthropometric measurements and clinical assessment of the respondents. The data thus collected was tabled, analysed and interpreted as per the needs of the study.

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Results

Hypothyroidism and BMI

Obesity is increasingly being identified as a major epidemic today raising worldwide health concerns. Even small changes in TSH levels can have an effect on BMI profile (Knudsen. N, 2005). There exists a significant positive association between TSH and BMI in euthyroid subjects (Nyrnes A, Jorde R, and Sundsfjord J, 2006) [6]. The present study revealed that 36% respondents were normal, 54% respondents had grade I obesity and 10% had grade II obesity. Thus, it can be inferred that hypothyroidism is associated with weight gain.

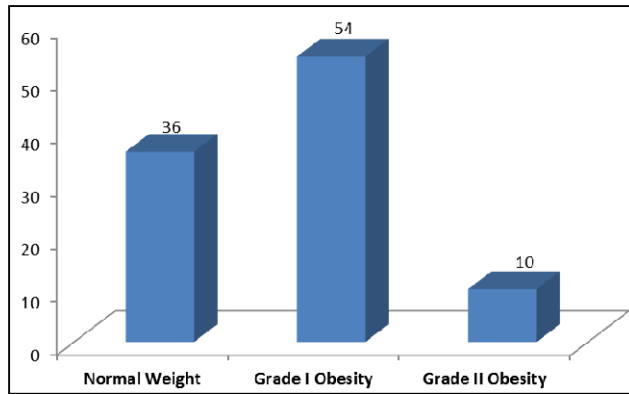


Fig 1: Distribution of subjects according to their BMI

Clinical Assessment

The data on assessment of clinical signs among the respondents of the study shows that the majority of respondents showed the majority of signs with 32% showing dull hair, 30% showing paleness of skin, 68% showing pale tongue, 40% having hoarseness in voice, 28% having dry and pale eyes and 26% showing paleness of nails.

Table 1: Distribution of respondents as per signs of Malnutrition

Variables	Number	Percentage
Hair		
Normal	90	60
Dull/Dry	48	32
Sparseness	12	8
Skin		
Normal	66	44
Rough/Dry	39	26
Pale	45	30
Tongue		
Normal	48	32
Pale	102	68
Voice		
Normal	90	60
Hoarseness	60	40
Eyes		
Normal	93	62
Dry & pale	42	28
Lack of lustre	15	10
Nails		
Normal	84	56
Spoon shaped	11	7.3
Brittleness	16	10.6
Pale	39	26

Assessment of symptoms

The signs and symptoms of hypothyroidism vary widely, depending on the severity of the hormone deficiency. A deficiency in Thyroxine (T₄) alters weight, appetite, sleep

patterns, body temperature and other physical, mental and emotional characteristics (Haggerty 1999) [2]. The assessment of symptoms among the respondents revealed that majority i.e. 72% showed an increase in weight, 76% showed cold intolerance, 88% showed tiredness, 64% decreased muscle strength, 50.6% reported decreased appetite, 32% showed anxiety and depression, 54% showed increased heart palpitations, 64% reported constipation, 36% showed voice changes, 46% complained of lumpy feeling in throat, 39.3% reported difficulty in swallowing and 36% complained of difficulty in breathing.

Table 2: Distribution of subjects according to symptoms

Variables	Number	Percentage
Weight		
Gained	108	72
Lost	12	8
No change	30	20
Cold intolerance	114	76
Tiredness	132	88
Decreased muscle strength	96	64
Decreased appetite	76	50.6
Anxiety	48	32
Depression	48	32
Heart palpitation	81	54
Constipation	96	64
Voice changes	54	36
Lumpy feeling in throat	69	46
Difficulty in swallowing	59	39.3
Difficulty in breathing	54	36

Nutritional Deficiencies

The present study revealed that 70% of subjects suffer with calcium deficiency, 18% with iron deficiency and 12% with vitamin A deficiency. This means that calcium deficiency was more prevalent in hypothyroid patients.

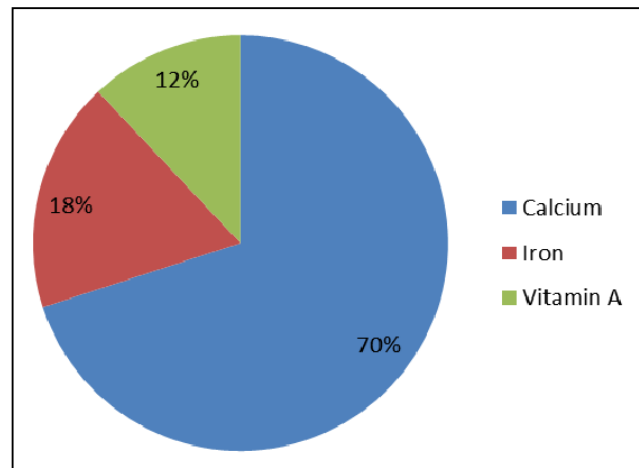


Fig 2: Distribution of subjects according to nutritional deficiencies

Conclusion

Based on our present study findings from dietary pattern of patients with hypothyroidism it can be inferred that maximum number of patients were grade I obese but some of the patients had normal BMI. Weight gain, cold intolerance, tiredness, decreased muscle strength, heart palpitation, constipation, lumpy feeling in throat and difficulty in swallowing were the chief and most common symptoms shown by majority of patients. The common prevalent signs of malnutrition in both males and females were dull and dry

hair, rough and dry skin, pale tongue, pale eyes, pale nails and hoarseness in voice. Besides calcium, iron and vitamin A deficiency was found in most of the patients.

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