

**PREVALENCE OF PSYCHIATRIC DISORDERS IN PATIENTS WITH
HYPOTHYROIDISM**

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ABSTRACT

Thyroid hormone has salient role in normal body functioning. The inconsistent grade of psychiatric symptoms/disorders is common in patients with thyroid dysfunction that is in both the case of hyperthyroidism and hypothyroidism. The dysfunction in thyroid hormones are mostly recognized to cause significant manifestation in mental health, creates mood abnormalities and lead to disturbances in emotions and cognition. Hypothyroidism is a clinical ailment characterised by the insufficiency in thyroid hormones and it have a close association with psychiatric illness. Predominant symptoms in patients with hypothyroidism are forgetfulness, mental slowness, emotional lability and fatigue. The brain influenced to use thyroid hormones very differently when comparing to other organs in the body and is also essential for the development of central nervous system and maintenance of haemostasis. The most common affective disorders seen in hypothyroid patient was depression and anxiety. The patients with hypothyroidism are mostly misdiagnosed of primary psychiatric illness due to the presenting symptoms. This review briefly focuses on the prevalence of psychiatric disorders in patients with hypothyroidism.

KEYWORDS: Psychiatric disorders, Hypothyroidism, Thyroid axis, Depression.**INTRODUCTION**

Thyroid gland is the endocrine gland, which is located in the neck and is responsible for the secretion of two hormones such as thyroxine (T₄) and triiodothyronine (T₃).^[2] Thyroid hormones plays a crucial function in the metabolic activity of the brain and neuropsychiatric manifestations of thyroid diseases. Thyroid dysfunctions can also prompt psychiatric comorbidities such as depressive disorders, anxiety disorders, learning and memory disturbances.^[1,24] Hypothyroidism is a clinical ailment characterised by the insufficiency in thyroid hormones (T₃, T₄) and it confer with different manifestations compartmentalizing metabolic derangements to global developmental abnormalities.^[2,14] Hypothyroidism collision certain facet of cognitive functioning (slowed information processing speed, reduced efficiency in executive functions and poor learning) and mood.^[5] Severe hypothyroidism mimics melancholic depression and dementia, and thus cause reduction in HRQOL (health related quality of life).^[4,5] Manifestation of hypothyroidism includes bradycardia, facial puffiness, slow speech, on-pitting type of pedal edema (swollen feet) and delayed deep tendon reflexes. Psychiatric disorders for instance psychotic disorders, depressive disorders and rapid cycling bipolar disorders are discern in hypothyroidism.^[7,3] These disorders are familiar to accompany hypothyroidism and its diagnosis are customarily designating from mild mental status impairment to severe psychosis and mood disorders.^[14]

Neuropsychiatric symptoms includes the particular disablement of cognitive functions, behavioural and mood disturbances, increased or decreased motor activity, appetite, tremors, muscular weakness, palpitations in thyroid diseases.^[1]

Anxiety and Depression are more prevalent in patients with hypothyroidism.^[1] If the patient is having acute hypothyroidism then the occurrence of anxiety disorder is about (30%-40%) and the physiological symptoms of anxiety are sweats, tension, irritability, restlessness, distraction.^[4,2] Insinuation of hypothyroidism comprise oxidative stress, low appetite, fatigue and low concentration, which are also common symptoms for depression. The symptoms seen in patients with hypothyroidism are as a results of changes in the level of serotonergic and noradrenergic receptors. The major psychological symptoms in patients with hypothyroidism are depressive features, memory decrement, free-floating anxiety and somatic complaints.^[7] THs plays a significant role in mood, behaviour, cognition and it is an established coalition. TH regulates gene expression in myelination, differentiation of neuronal and glial cells, neuronal viability and its function and also stimulates the development of axons, neuronal processes, dendrites, increased rate of proliferation, end it by acting as a time clock. TH influence and governs the CNS during both the developmental phase and entire life, hypo and hyperthyroid states, both having the comorbidity with the

psychiatric conditions.^[5]

PSYCHIATRIC DISORDERS

Most of the patients with severe type of hypothyroidism will demonstrate psychiatric symptoms. Clinical manifestation of psychiatric disorder are endocrine dysfunction and they may produce some symptoms, which are difficult to distinguish it. Psychopathological symptoms can be evaluated by 17-item Hamilton Rating Scale for depression (HDRS), Brief symptom inventory (BSI), BSI Sub –scales and hospital anxiety and depression scale (HAD). Diagnosis of psychiatric test can be performed by DSM –IV-SCID (Structured clinical interview for DSM).^[3,6] Psychiatric disorders for instance psychotic disorders, depressive disorders and rapid cycling bipolar –IV disorders are discern in hypothyroidism. The evidence of psychiatric symptoms with hormonal treatment (levothyroxine) of OH, and the use of T3 (triiodothyronine) to potentiate the response to

the treatment of depressive disorder shows the direct relationship between the thyroid hormones and psychiatric symptoms.^[8]

THYROID AXIS DEFORMITY IN DEPRESSION

The most common affective disorder seen in hypothyroid patient was depression.^[14] In depressive patients, so many abnormalities of thyroid axis can be seen and it have been described in spite of normal circulatory levels of thyroid hormones. The frequent abnormality in thyroid axis was the increase in T4 levels. Autoimmune thyroiditis is also found in patients with depression (15%) and the widely recognized disturbance was the blunting of TSH response to thyrotropin – releasing hormone (TRH) stimulation, it is due to rise in TSH and occurs in (25-30%) of the depressed patients and they appears to be a “trait” rather than a “state “marker of depression, because the recovery in clinical is associated with normalization of the TSH response.^[16]

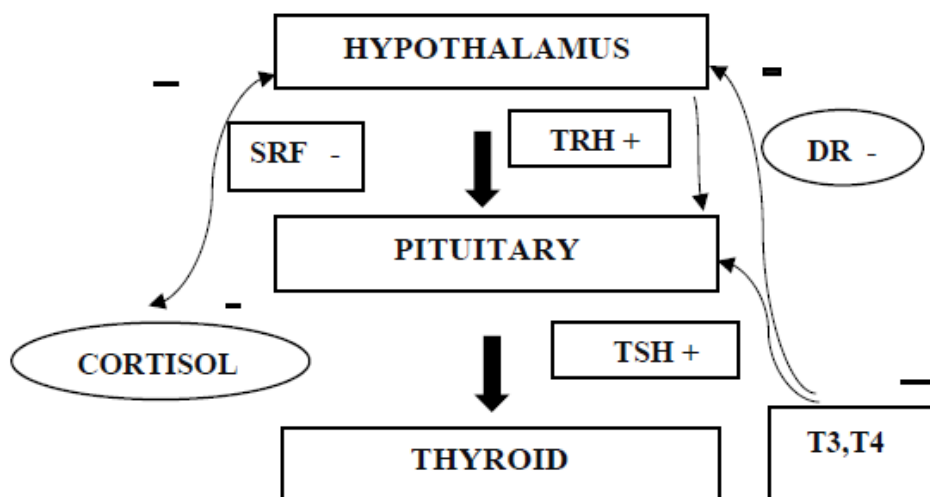


FIG. 1 HORMONAL REGULATION OF HYPOTHALAMIC PITUITARY THYROID AXIS

Fig. 1

CONCLUSION

Hypothyroidism is becoming more prevalent in Indian population. The patient with hypothyroidism are at a higher risk of psychiatric symptoms. The dysfunction in thyroid hormones are mostly recognized to cause significant manifestation in mental health, creates mood abnormalities and lead to disturbances in emotions and cognition and also prompt psychiatric comorbidities such as depressive disorders, anxiety disorders, learning and memory disturbances. Assessment of thyroid function tests can be a good predictor. Hence proper management is necessary to reduce the effects of hypothyroidism on physical as well as mental health.

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ABBREVIATIONS

TH-Thyroid hormone
 TSH-Thyroid stimulating hormone TRH- Thyrotropin – releasing hormone T4- Thyroxine
 T3- Triiodothyronine
 HRQOL- Health related quality of life HDRS-Hamilton Rating Scale for depression BSI-Brief symptom inventory
 DSM –IV-SCID -Structured clinical interview for DSM
 CNS-Central Nervous system

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