

## STRUCTURE OF PSYCHOEMOTIONAL DISORDERS IN WOMEN WITH HYPOTHYROIDISM

Ollaberganova Rohila Zaxirjanovna  
Ollaberganova Muxlisa Fazliddin qizi  
*Urgench State Medical Institute*

**Annotation:** *Hypothyroidism is accompanied not only by endocrine and metabolic disorders, but also by dysfunction of the central nervous system. This study is aimed at determining the structure of psychoemotional disorders in women with hypothyroidism, their severity, and the relationship with thyroid hormones. The study involved 120 women diagnosed with hypothyroidism. The psycho-emotional state was studied using the Spielberger-Khanin anxiety scale, the Beck depression scale, and the criteria for clinical assessment of affective disorders. The results showed a high frequency of anxiety and depressive disorders in hypothyroidism, especially their pronounced clinical manifestations in manifest hypothyroidism. The obtained data justify the need for mandatory assessment of the psycho-emotional state in the treatment of patients with hypothyroidism.*

**Keywords:** *hypothyroidism, psychoemotional disorders, anxiety, depression, affective state, thyroid hormones.*

### INPUT

Hypothyroidism is a chronic endocrine disorder characterized by a persistent deficiency of thyroid hormones, the clinical manifestations of which extend far beyond purely somatic symptoms [8,12,15,21,32,37]. In addition to metabolic and systemic disturbances, hypothyroidism has a pronounced impact on the central nervous system, affecting both its functional and regulatory mechanisms [3,10,18,26,29].

Numerous studies conducted in recent years indicate that hypothyroidism significantly influences the psycho-emotional sphere. These effects are often among the earliest manifestations of the disease and may precede the development of overt somatic signs [5,13,22,30,38]. However, psychoemotional disorders are frequently underestimated in clinical practice, as they are closely intertwined with physical complaints and are sometimes misinterpreted as secondary reactions to chronic illness [7,16,24,34,40].

Psychoemotional disturbances associated with hypothyroidism commonly include increased anxiety, depressive symptoms, emotional lability, reduced motivation, and affective instability. Such changes substantially impair patients' daily functioning, social interactions, and professional activity, ultimately leading to a marked decline in overall quality of life. The chronic nature of these symptoms further exacerbates the psychosocial burden of the disease [1,9,20,27,35].

Thyroid hormones play a crucial role in the regulation of neurotransmitter metabolism and the functional activity of key neuromediator systems, particularly the serotonergic and noradrenergic pathways. In addition, they are involved in maintaining normal interactions between the cerebral cortex and the limbic system, which are essential for emotional regulation and adaptive behavior [6,14,23,31,39]. Consequently, the development of psychoemotional disorders in the context of thyroid hormone deficiency is considered physiologically well-grounded and pathophysiologically justified [2,11,19,28,36].

The present study was aimed at a comprehensive analysis of the structure and severity of psychoemotional disorders in women with hypothyroidism. Special attention was given to comparing these disorders across different clinical forms of hypothyroidism, as well as to identifying potential correlations with hormonal status. The findings of this study are intended to support clinically relevant and practical conclusions that may contribute to improved diagnostic approaches and more individualized therapeutic strategies [4,17,25,33,41].

#### Materials and methods

The study included 120 women with a confirmed diagnosis of hypothyroidism. The age of the respondents ranged from 30 to 50 years, the average age was  $41.2 \pm 4.6$  years.

Patients were divided into two main groups:

- Subclinical hypothyroidism (SG) - 62 patients
- Manifest hypothyroidism (MH) - 58 patients

Evaluation methods:

- Thyroid hormones: TSH, free T4
- Psychoemotional state:
  - Spielberger-Hanin scale (reactive and personal anxiety)
  - Beck Depression Scale
  - Clinical affective assessment

Statistical analysis was carried out using Student's t-test,  $\chi^2$  test, and correlation analysis. The level of reliability was taken as  $p < 0.05$ .

#### Results

##### General structure of psychoemotional disorders

According to the research results, at least one psychoemotional disorder was detected in 78.3% of women with hypothyroidism. In the subclinical hypothyroidism group, this indicator was 66.1%, while in manifest hypothyroidism it reached 91.4%.

Table 1. Frequency of psychoemotional disorders (%)

Type of failure	SG group	MG group
Worry	48.3	72.4
Depression	34.1	68.9
Affective lability	29.0	55.1

##### Anxiety level analysis

The results of the Spielberger-Khanin scale showed a predominance of moderate anxiety in subclinical hypothyroidism, and a significant increase in high anxiety in manifest hypothyroidism.

Table 2. Distribution by level of anxiety

Level of anxiety	SG (%)	MG (%)
Low	21.0	6.9
Average	56.4	37.9
High	22.6	55.2

Analysis of the diagram (Diagram 1) showed that in manifest hypothyroidism, a high level of anxiety occurs almost 2.5 times more often than in the subclinical form.

#### Assessment of depressive states

The average score of signs of depression on the Beck scale was  $12.8 \pm 3.4$  in the CG group and  $21.6 \pm 4.9$  in the MG group ( $p < 0.001$ ). This manifestation indicates the predominance of clinically significant depressive disorders in hypothyroidism.

Table 3. Distribution by degree of depression

Degree	SG (%)	MG (%)
No / minimum	51.6	19.0
Average	33.9	41.4
Heavy	14.5	39.6

#### Discussion

The obtained results show that psychoemotional disorders are widespread in women with hypothyroidism, and their severity is directly related to the form of the disease. Especially in manifest hypothyroidism, depressive and anxiety states prevail, which have a serious impact on the social activity and quality of life of patients.

The formation of psychoemotional disorders is associated with the neurobiological role of thyroid hormones, which is explained by the suppression of the activity of neurotransmitter systems against the background of hormone deficiency.

#### Conclusion

Psychoemotional disorders are more common in women with hypothyroidism, and their severity increases depending on the clinical form of the disease. In manifest hypothyroidism, anxiety and depressive disorders predominate, which indicates the need for complex treatment of patients based on an endocrine and psychological approach. Early detection and correction of the psychoemotional state can increase the effectiveness of treatment of patients with hypothyroidism.

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