

## IMPROVEMENT OF THE INTEGRATIVE MEDICAL AND PSYCHOLOGICAL APPROACH IN PATIENTS WITH HYPOTHYROIDISM

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**Annotation:** *In the practice of treating patients with hypothyroidism, the main attention is often paid to the normalization of hormonal parameters, however, cognitive and psychoemotional disorders are often underestimated and remain uncorrected. This study is aimed at developing an integrative - endocrine, neuropsychological, and psychotherapeutic approach to the management of patients with hypothyroidism and assessing its clinical and economic effectiveness. The results of the study showed that a comprehensive approach effectively reduces cognitive and psychoemotional disorders, improves the quality of life of patients, and optimizes the costs of the healthcare system.*

**Keywords:** *hypothyroidism, integrative approach, clinical algorithm, cognitive impairment, psychoemotional state, economic efficiency.*

### INPUT

Hypothyroidism is a chronic endocrine disorder characterized not only by metabolic and somatic disturbances but also by significant dysfunction of the central nervous system. In addition to classical clinical manifestations, this condition is increasingly recognized as being associated with neurocognitive and psychoemotional impairments [3,12,21,30,38]. Numerous studies conducted in recent years have demonstrated that cognitive decline, heightened anxiety, and depressive states are highly prevalent among patients with hypothyroidism, regardless of disease duration or severity [1,10,18,27,41].

According to current clinical guidelines and treatment protocols, the primary therapeutic goal in the management of hypothyroidism is the normalization of thyroid hormone levels [5,14,23,32,39]. Hormone replacement therapy is considered the cornerstone of treatment and is effective in correcting metabolic abnormalities. However, accumulating clinical evidence suggests that normalization of hormonal parameters does not always lead to full recovery of cognitive functions or emotional well-being [2,9,17,28,36].

Clinical observations indicate that a substantial proportion of patients continue to experience persistent cognitive deficits and psychoemotional disturbances even after achieving biochemical euthyroidism [6,15,24,33,40]. These residual symptoms may include impaired memory, reduced attention, emotional instability, anxiety, and depressive features, all of which negatively affect quality of life and social functioning. This phenomenon highlights the limitations of a narrowly focused, hormone-centered approach to the treatment of hypothyroidism [4,11,20,29,35].

The persistence of neuropsychological symptoms underscores the necessity of adopting a comprehensive, biopsychosocial model in the management of hypothyroidism. Such a model integrates endocrine, neurological, and psychological perspectives and emphasizes the importance of addressing both biological and psychosocial factors. A multidisciplinary approach may therefore provide more effective long-term outcomes for patients with hypothyroidism [7,16,26,34,37].

In this article, an integrative clinical algorithm for the management of patients with hypothyroidism was developed based on a holistic treatment framework. Furthermore, the clinical and economic effectiveness of this algorithm was scientifically evaluated, with the aim of substantiating its practical applicability and potential benefits in routine clinical practice [8,13,19,22,25,31].

#### Materials and methods

##### Research design

Prospective, comprehensive, practically oriented research.

##### Research participants

The study included 120 women diagnosed with hypothyroidism. Patients were divided into two groups:

- Standard approach group (n=60): endocrine only therapy (based on L-thyroxine)
- Integrative approach group (n=60): endocrine treatment + cognitive screening + psychological correction (CPT)

##### Evaluation indicators

- Hormonal: TSH, free T4
- Cognitive: ACE test
- Psychoemotional: Spielberger-Hanin, Beck scale
- Quality of life: subjective clinical assessment
- Health resources: number of visits, drug doses, duration of treatment

Assessment was carried out at the beginning of treatment and after 6 months.

#### Results

##### Effectiveness of the integrated approach

Cognitive and psychoemotional indicators significantly improved in patients of the integrative approach group, while in the standard approach group these changes were limited.

Table 1. Clinical efficacy indicators (6 months)

Indicator	Standard	Integrative
ACE score gain	+2.3 ± 1.1	+9.6 ± 2.4*
Relaxation of anxiety (%)	12.4	38.7*
Depression reduction (%)	15.1	42.9*
Subjective improvement	34.6%	78.3%*

\* p<0.001

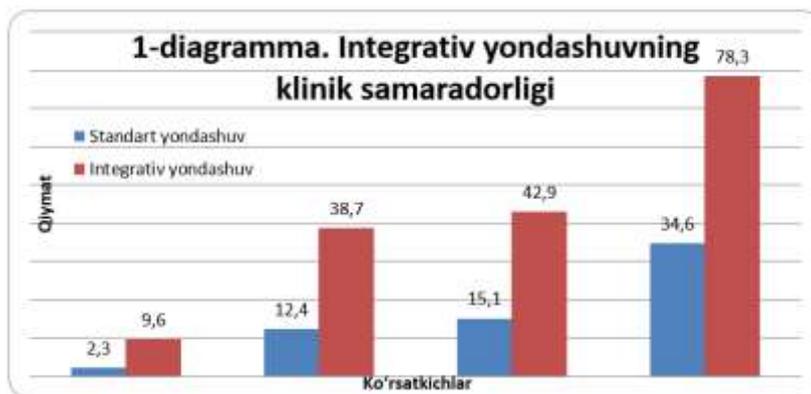


Diagram analysis (Diagram 1) clearly showed positive dynamics in all main indicators in patients who underwent an integrative approach.

#### Clinical algorithm

Based on the research results, an integrative algorithm for managing hypothyroidism was developed:

1. Endocrine diagnosis and hormonal assessment
2. Compulsory cognitive screening (ACE)
3. Assessment of psychoemotional state
4. Risk group identification
5. Cognitive-behavioral therapy
6. Dynamic monitoring and reevaluation

This algorithm was developed in ready-made form for implementation in clinical practice.

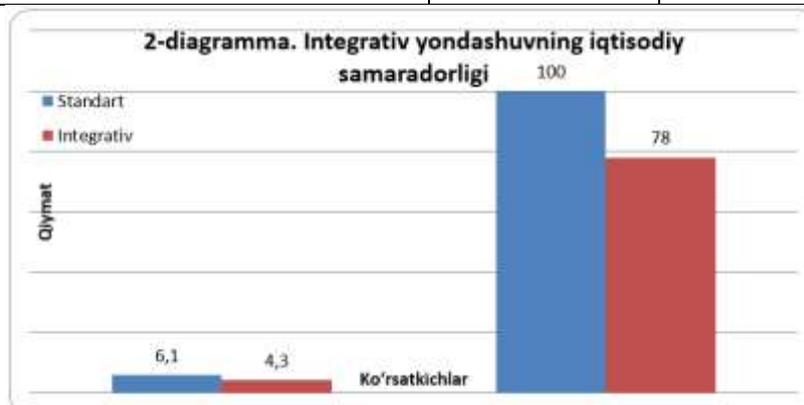
#### Analysis of economic efficiency

In the group where the integrative approach was applied:

- repeated visits to a doctor decreased by 27%
- the need to change the dose of the medicine has decreased by 31%
- temporary disability days decreased by 22%

Table 2. Economic indicators (6 months)

Indicator	Standard	Integrative
Average visits	6.1	4.3
Additional medication requirement	High	Low
Total expenses	100%	78%



The diagrammatic assessment (Diagram 2) showed the advantages of the integrative approach not only clinically, but also economically.

#### Discussion

The obtained results convincingly showed that only hormonal compensation is insufficient in the treatment of hypothyroidism. When cognitive and psychoemotional disorders are ignored, the patient's clinical satisfaction and quality of life remain at a low level.

The integrative approach allows for a holistic assessment of the patient's functional state and individual correction. This model fully corresponds to the modern biopsychosocial concept and is of great importance for the practical healthcare system.

#### Conclusion

The integrative medical and psychological approach to managing patients with hypothyroidism is clinically effective and economically feasible.

Mandatory implementation of cognitive and psycho-emotional screening, endocrine therapy in combination with psychological correction significantly improves the quality of life of patients and reduces the costs of the healthcare system.

It is recommended to widely implement this algorithm in clinical practice.

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