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PERSISTENT IMPAIRMENT OF QUALITY OF LIFE IN PATIENTS WITH COMPENSATED HYPOTHYROIDISM: ASSESSMENT OF PHYSICAL, SOCIAL, AND PSYCHOLOGICAL DOMAINS

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Abstract: This study assessed quality of life and depressive symptoms in patients with compensated primary hypothyroidism compared with euthyroid nodular goiter and healthy individuals. The study included 30 patients with compensated hypothyroidism, 28 patients with nodular euthyroid goiter, and 30 healthy participants aged 25–55 years. Health-related quality of life was evaluated using the MOS SF-36 questionnaire, while depressive symptoms were assessed with the Beck Depression Inventory. Compared with healthy individuals, patients with hypothyroidism had significantly lower scores in physical functioning, role physical functioning, pain, vitality, social functioning, and psychological health. Beck depression scores were also significantly higher in hypothyroidism, reaching 15.5 (7–22) compared with 10 (5.5–15.5) in nodular goiter and 8.5 (2–13.5) in controls.

Keywords: hypothyroidism; quality of life; SF-36; depression; levothyroxine.

СОХРАНЯЮЩЕЕСЯ СНИЖЕНИЕ КАЧЕСТВА ЖИЗНИ У ПАЦИЕНТОВ С КОМПЕНСИРОВАННЫМ ГИПОТИРЕОЗОМ: ОЦЕНКА ФИЗИЧЕСКИХ, СОЦИАЛЬНЫХ И ПСИХОЛОГИЧЕСКИХ АСПЕКТОВ

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Аннотация: В исследовании оценивались качество жизни и выраженность депрессивных симптомов у пациентов с компенсированным первичным гипотиреозом в сравнении с больными узловым эутиреоидным зобом и

здоровыми лицами. В исследование включены 30 пациентов с компенсированным гипотиреозом, 28 пациентов с узловым эутиреоидным зобом и 30 здоровых лиц в возрасте 25–55 лет. Качество жизни оценивали с помощью опросника MOS SF-36, а выраженность депрессивных симптомов — по шкале депрессии Бека. У пациентов с гипотиреозом по сравнению со здоровыми лицами достоверно снижались показатели физического функционирования, ролевого физического функционирования, боли, жизнеспособности, социального функционирования и психологического здоровья. Средний показатель депрессии также был достоверно выше и составил 15,5 (7–22) балла против 10 (5,5–15,5) при узловом зобе и 8,5 (2–13,5) у здоровых лиц.

Ключевые слова: гипотиреоз; качество жизни; SF-36; депрессия; левотироксин.

Introduction: Primary hypothyroidism is a chronic endocrine disorder that may continue to influence patients even after biochemical compensation has been achieved with thyroid hormone replacement. Restoration of euthyroidism improves symptoms, yet some patients continue to experience fatigue, muscle discomfort, low mood, memory problems, and reduced general well-being. These persistent manifestations can influence daily functioning and perceived health status. Quality of life assessment therefore provides information that laboratory thyroid parameters alone cannot capture. The MOS SF-36 questionnaire permits evaluation of physical, social, and psychological domains and comparison with healthy populations or patients with other thyroid disorders. Assessment of depressive symptoms is also relevant because emotional disturbances may contribute to dissatisfaction with treatment and lower perceived health. The source study compared compensated primary hypothyroidism with nodular euthyroid goiter and healthy participants. This comparison helps distinguish consequences associated with hypothyroidism from those related simply to chronic thyroid disease. Particular attention was given to physical functioning, role limitations, pain, vitality, social functioning, emotional functioning, and psychological health.

Depressive symptom severity was assessed separately using the Beck Depression Inventory. Such combined patient-reported assessment may identify persistent problems despite stable treatment and can provide useful information for follow-up and individualized management. Therefore, patient-reported outcomes may complement biochemical assessment when replacement treatment does not fully restore everyday well-being.

Aim of the study: To compare health-related quality of life and depressive symptom severity in patients with compensated primary hypothyroidism with corresponding indicators in patients with nodular euthyroid goiter and healthy individuals.

Materials and methods. The study enrolled three groups of participants aged 25–55 years. The first group comprised 30 patients with compensated primary overt hypothyroidism, with a disease history of at least one year and replacement therapy. The second included 28 patients with nodular or multinodular colloid euthyroid goiter, also with disease duration of at least one year, who were not receiving thyroid hormone preparations. The third group consisted of healthy individuals without thyroid pathology. Quality of life was evaluated with the SF-36 questionnaire. The instrument contains 36 questions covering physical, physiological, and social aspects and generates eight scales from 0 to 100, where higher values indicate better quality of life. Depressive symptoms were measured with the 21-item Beck Depression Inventory, containing cognitive and somatic components. Statistical analysis used Statistica 6.0 and Biostatistica 4.03. Two independent groups were compared with the Mann–Whitney test. More than two groups were analyzed using the Kruskal–Wallis test with Dana’s multiple-comparison procedure. Categorical variables were evaluated with the chi-square test. Results were presented as median with the 25th and 75th percentiles or mean $\pm$ standard deviation. The groups were assessed using a significance threshold of $p \leq 0.05$. under uniform study conditions.

Results. Patients with compensated hypothyroidism demonstrated lower quality-of-life scores than healthy participants across most SF-36 domains. Physical

functioning was 80 (65, 90) versus 90 (80, 95) in controls ($p=0.007$), while role physical functioning was 50 (25, 75) versus 100 (50, 100; $p=0.004$). Pain was 53 (41, 74) compared with 80 (62, 100) ($p=0.003$). Vitality reached 52.5 (40, 70) versus 70 (55, 75) ($p=0.017$), social functioning 75 (50, 87.5) versus 75 (62.5, 87.5) ($p=0.043$), and psychological health 60 (44, 76) versus 72 (56, 84) ($p=0.034$). Compared with nodular euthyroid goiter, hypothyroidism remained associated with lower role physical functioning, vitality, social functioning, and psychological health, with $p=0.042$, $p=0.015$, $p=0.0$, and $p=0.021$, respectively. Depression symptom scores were significantly higher in compensated hypothyroidism: 15.5 (7, 22) versus 10 (5.5, 15.5) in nodular goiter and 8.5 (2, 13.5) in healthy participants ($p=0.014$). The physical and psychological differences were observed despite biochemical compensation. In direct comparison with nodular euthyroid goiter, the hypothyroidism group had lower role physical functioning (50 [25,75] versus 75 [50,100]), vitality (52.5 [40,70] versus 70 [60,80]), social functioning (75 [50,87.5] versus 100 [75,100]), and psychological health (60 [44,76] versus 72 [64,80]). Pain showed a nonsignificant trend toward lower scores ($p=0.06$), while general health and role emotional functioning also lacked significant differences. The depression scale therefore added relevant information beyond the SF-36 profile.

Conclusions: Compensated primary hypothyroidism was associated with persistent impairment of several patient-reported quality-of-life domains despite replacement therapy. Compared with healthy individuals, patients had lower physical functioning, role performance, vitality, social functioning, and psychological health. Several domains were also worse than in nodular euthyroid goiter, suggesting that reduced well-being cannot be attributed only to having a chronic thyroid disorder. Depressive symptoms were significantly more pronounced, with a median Beck score of 15.5 versus 10 and 8.5 in comparison groups. These findings support quality-of-life and depression assessment alongside biochemical monitoring during follow-up. Assessment may identify persistent burden despite stable biochemical control over time.

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