Depression, anxiety, and stress in surgical candidates with hyperthyroidism or with nontoxic nodular benign goiter

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Introduction: In comparison with the general population and patients with nontoxic nodular goiter, a higher incidence of depression, anxiety and stress in patients with hyperthyroidism was reported. It is not clear whether the mental symptoms are related to increased levels of thyroid hormones or thyroid autoimmunity. Aims: To determine and compare the levels of depression, anxiety, and stress in patients with hyperthyroidism and in patients with nontoxic nodular benign goiter. Methods: In a cross-sectional study, surgical candidates for strumectomy, due to hyperthyroidism (n = 10) or nontoxic nodular benign goiter (n = 30), completed a general questionnaire on sociodemographic data, comorbidities and laboratory findings related to the thyroid condition and the Depression, anxiety and stress scale (DASS). Results: Out of all the examined patients, 85%, 65%, and 85% of them showed depression, anxiety, and stress scores within the normal range, respectively. Euthyroid patients had significantly higher scores on the depression ($p = 0.013$) and stress ($p = 0.005$) subscale in comparison with hyperthyroid patients. Compared with males, females showed significantly higher scores on the depression ($p = 0.046$) and anxiety ($p = 0.005$) subscale. There was no significant relationship between the level of formal education and DASS subscales scores. Conclusions: A small share of the examined surgical candidates for strumectomy had elevated levels of depression or stress. Compared with hyperthyroid patients, euthyroid patients showed higher levels of depression and stress. Females had higher levels of depression and anxiety in comparison with males. The levels of examined negative emotional states were not related to the formal education levels of the patients.

Key words: hyperthyroidism, euthyroidism, depression, anxiety, stress