

## THE CORRELATION BETWEEN BODY MASS INDEX AND THYROID STIMULATING HORMONE IN EUTHYROID PERSONS

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The aim of the study was to determine the correlation between body mass index (BMI), thyroid stimulating hormone (TSH), and thyroid hormones in euthyroid persons. The study included 396 euthyroid participants. The subjects with already established disease of the thyroid function were excluded. In all subjects we measured weight, height and determined BMI. According to BMI values, the subjects were divided into three groups: group A – BMI up to 24.9 (normal weight); group B - BMI from 25 to 29.9 (overweight); group C - BMI over 30 (obesity). In all subjects we determined serum TSH and free thyroxine (FT4) levels and antibodies to thyroid peroxidase (TPOAb). According to TSH levels, the subjects were divided into two groups: TSH up to 2.5, and TSH higher than 2.5. There is an increase in TSH levels with increasing of BMI. In group C, TSH values were significantly higher than in the groups A and B, and were also higher than the mean values of TSH in all subjects. TSH level in group B were slightly higher compared to the group A but there is no statistically significant difference. TPOAb values increase with increasing of BMI. The mean value of BMI was significantly lower in the group of patients with TSH values lower than 2.5, compared to the mean value of BMI in the group of patients with TSH values higher than 2.5. The relationship of BMI and TSH points to significant positive correlations of two parameters, except in group A. We found a significant degree of positive correlation between BMI and TSH, which remains within the normal range. There are also significant changes in the of TPOAb values. There is no significant changes in the FT4 levels.

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**Key words:** euthyroid persons, BMI, TSH