**INTRODUCTION:**
Thyroid hormones control a vast of physiological processes, such as growth, development, basal metabolic rate, energy expenditure, contribute to appetite regulation therefore may have role in the development of obesity [1-4]. Clinical studies revealed that body mass index (BMI), waist circumference, arterial blood pressure and serum lipids are positively associated with levels of serum thyrotropin (TSH) in euthyroid individuals [5-7]. The prevalence of metabolic syndrome increases with higher quartiles of TSH within the euthyroid range, mostly due to increasing rate of dyslipidaemia [8]. The main objective of the study was to investigate association between body mass index (BMI), waist circumference and measures of thyroid function among euthyroid adult women.

**MATERIAL AND METHODS:**
We analysed retrospective data of 119 euthyroid women participating in Lithuanian screening and prevention program for patients with high cardiovascular risk at Vilnius city Antakalnio outpatient clinic from Jul 2013 to Dec 2013. Glucose, lipid profile, TSH and, free-thyroxin (FT4) tests and ultrasonography of thyroid gland records were investigated and thyroid gland volume was calculated using formula: thyroid volume, mm$^3 = height \times width \times depth$, mm$^3 \times correction factor (as 0.524)$. Lipid accumulation product (LAP) index was calculated using formula: $LAP, cm^2/mmol/l = (waist circumference, cm – 58) \times TG, mmol/l$.

We used SPSS version 20.0 for statistical analyses. A p value of < 0.05 was considered as significant.

**RESULTS:**
Mean patients age was 57.04 ± 4.56 years, body mass index (BMI) 28.86 ± 5.59 kg/m$^2$, waist circumference 88.40 ± 12.24 cm, LAP 44.02 ± 30.14 cm$^2$/mmol/l, TSH 1.81 ± 0.92 mU/l, FT4 12.84 ± 2.89 pmol/l, and mean thyroid gland volume 1444464.6 ± 6453.74 mm$^3$. 36.1% of women were obese and 41.2% overweight (Figure 1).

**CONCLUSIONS:**
We found that measures of overall and central adiposity were associated with higher circulating levels of TSH in euthyroid women. Although weight loss and weight gain are well-known consequences of overt thyroid dysfunction, our results suggest that, within the euthyroid range, excess body weight and especially central obesity may induce changes in thyroid hormone levels.

**REFERENCES:**