

Relationship of serum TSH with BMI, weight and HOMA-IR in euthyroid obese subjects

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INTRODUCTION Most obese subjects have a normal thyroid function. Despite that, serum TSH seems to be slightly higher in this population, with a positive correlation with the degree of obesity.

OBJECTIVE Evaluation of the relationship of serum TSH with BMI, weight and HOMA-IR in euthyroid obese subjects

METHODS

- Retrospective evaluation
- Obese subjects attending an Obesity Outpatient Clinic and submitted to bariatric surgery between January 2005 and December 2012
- Evaluation of pre-surgical records:
 - Gender
 - Age
 - Weight
 - BMI
 - TSH
 - Fasting insulin level
 - Fasting glucose level
 - HOMA-IR
- Descriptive and inferential statistics, as appropriate; statistical significance $p < 0.05$

Identified subjects	300
Excluded subjects	113
▪ Hx thyroid disease or TSH > 4.2 mIU/L	45
▪ Insufficient data	50
▪ Other reasons	18
Eligible subjects	187

RESULTS

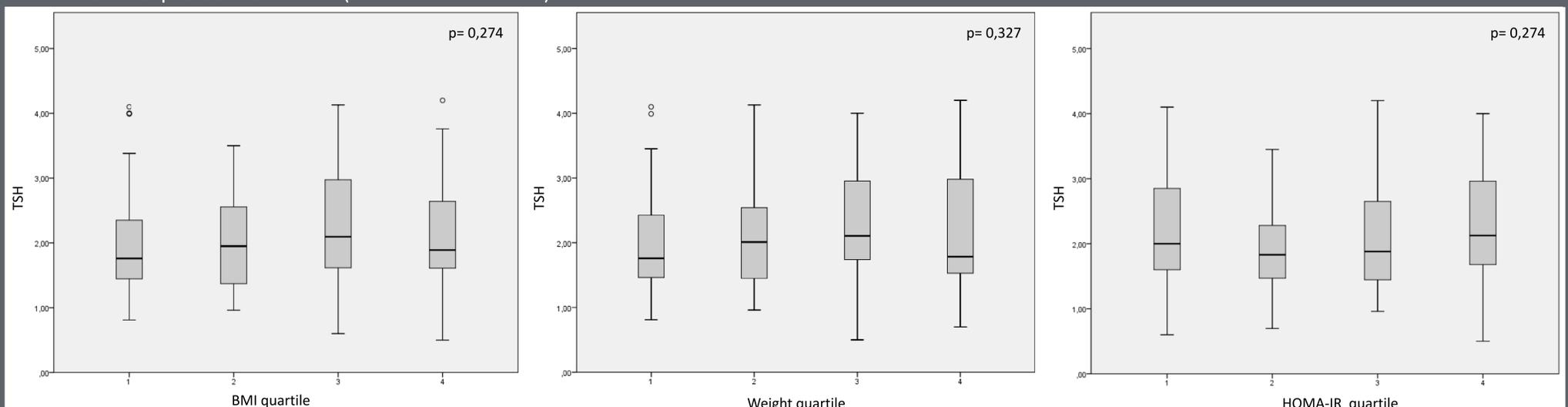
Patient characteristics

Gender (male/female)	36/151
Age (years) *	44 (20-67)
Weight (kg) *	116 (80-204)
BMI (Kg/m ²) *	43,9 (32,0-70,8)
TSH (mIU/L) *	1,9 (0,5-4,2)
Fasting insulin level (mIU/L) *	16,8 (0.7-56)
Fasting glucose level (mg/dL) *	89 (63-320)
HOMA-IR *	3,98 (1,6-26,2)

* Data expressed as median (minimum-maximum)

	BMI	Weight	HOMA-IR
TSH ♂ + ♀	r= 0,041 p= 0,577	r= 0,074 p= 0,314	r= 0,06 p= 0,409
♂	r= 0,198 p= 0,248	r= 0,185 p= 0,279	r= 0,107 p= 0,536
♀	r= 0,060 p= 0,463	r= 0,092 p= 0,259	r= 0,055 p= 0,536

Spearman test for correlation analysis



Kruskal-Wallis test for comparison of the parameters between groups

CONCLUSION There was no evidence for an association between serum TSH and BMI, weight and HOMA-IR in this population of euthyroid obese subjects.