OBESITY CORRELATES IN ADOLESCENCE

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BACKGROUND

Adolescence represents a period of one's life when profound mental and physiological adjustment take place marking the transition to adult life. Obesity is a common health issue amongst Greek adolescents often following an obese childhood.
Despite the growing obesity epidemic and insulin resistance among adolescents, there is an open discussion about the diagnostic criteria and surrogate markers applied in this age group.

OBJECTIVE AND HYPOTHESES

We intended to assess the dietary, lifestyle, and metabolic profile of adolescents followed at the outpatient clinic of our hospital.

METHODS

253 adolescents aged 13,9 ± 2,01 (Mean ± SD) , followed in the outpatient clinic of our hospital were included. The Body Mass Index (BMI) was calculated from weight and height measurements and was used to divide the adolescents into two group, obese and non-obese. Blood pressure, fasting insulin, glucose and lipid blood levels were measured. Estimates of insulin resistance homeostatic model assessment (HOMA-IR) and the quantitative insulin sensitivity check index (QUICKI), were derived from fasting measurements. All adolescents were given a standard questionnaire about dietary and lifestyle habits. For the statistical analysis we used SPSS 20.0 (IBM Corp.). Mann-Whitney and Spearman tests were applied.

RESULTS

94 adolescents were obese and 45 were also obese during their childhood. The reported consumption of snacks/fast food ($p<0.03$) and soda beverages ($p< 0.001$) was higher among obese. Additionally all obese adolescents reported less than one hour of daily physical activity.
A higher systolic and diastolic blood pressure ($p<0.001$ and $p< 0.03$ respectively), higher blood levels of fasting insulin ($p<0.001$) and lower High Density Lipoprotein (HDL) ($p<0.05$) were associated with obesity. Insulin resistance and insulin sensitivity indexes were associated with obesity (HOMA-IR, $p <0.001$, QUICKI $p<0.001$).

CONCLUSION

Increased insulin resistance, higher blood pressure and low levels of HDL were associated with increased adiposity among adolescents. It is therefore necessary to screen for high blood pressure and hyperlipidemia among obese adolescents but it is equally important to try and make them adopt healthy dietary habits and increase their physical activity.

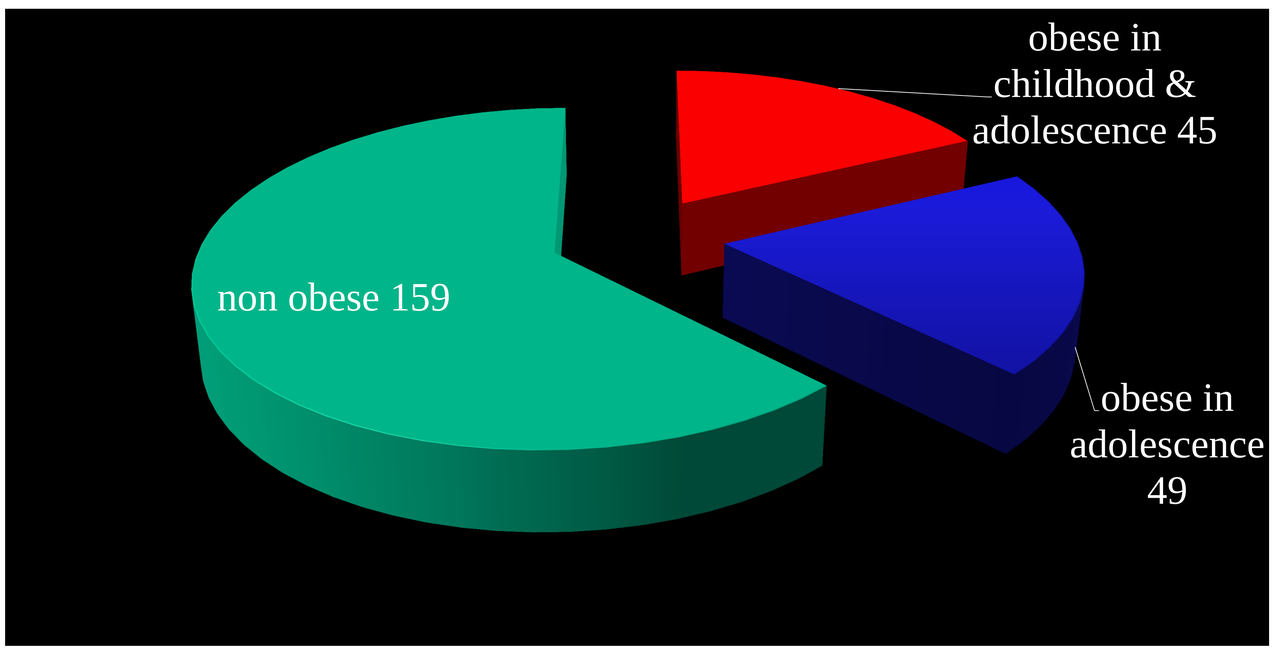

Figure 1.

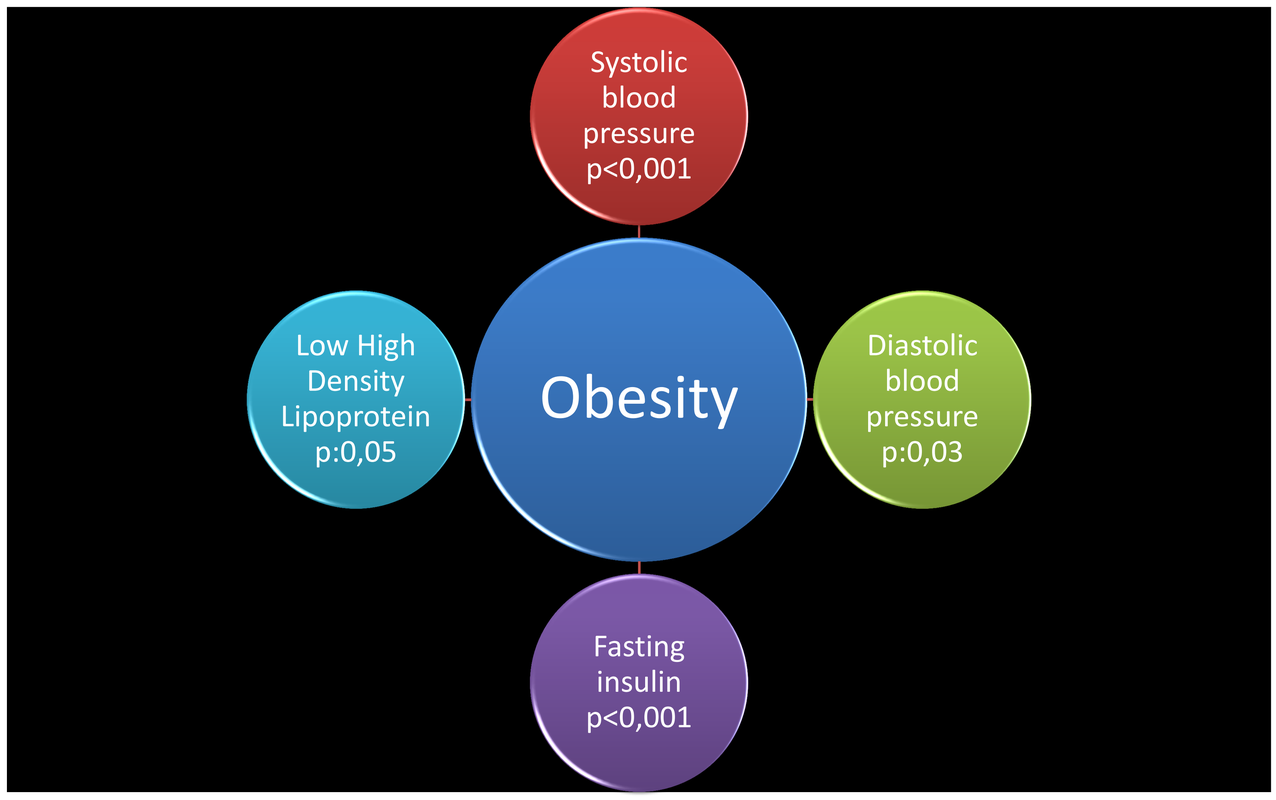

Figure 2. Correlates of obesity in adolescents

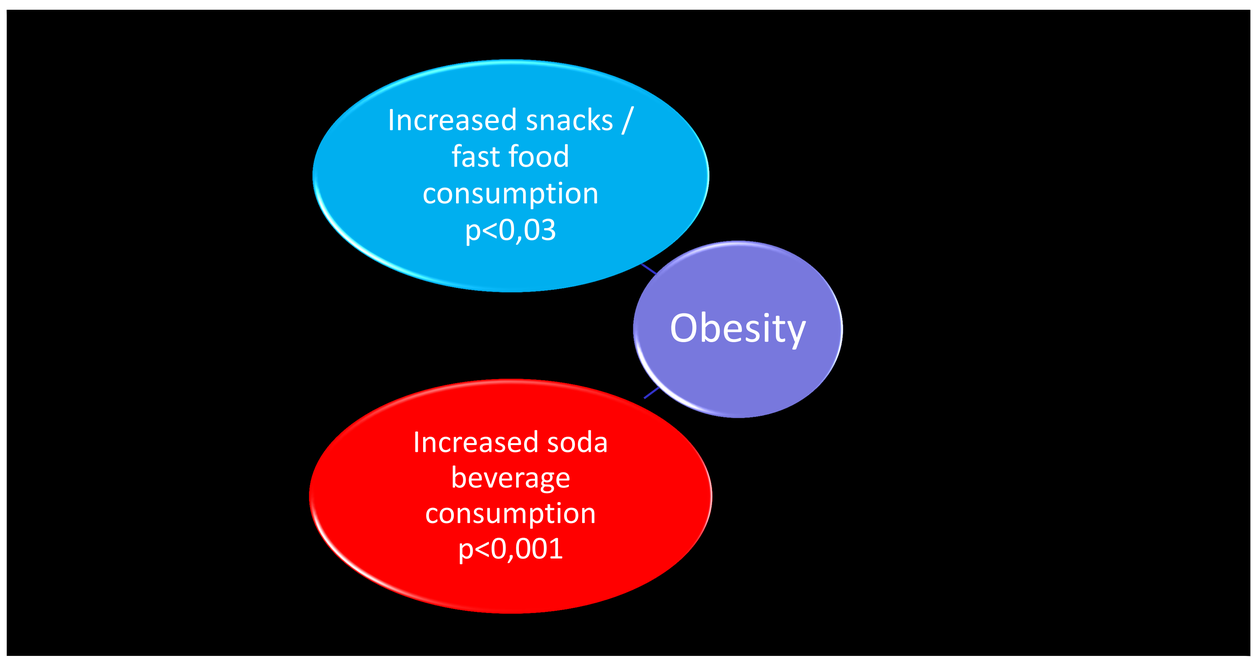

Figure 3. Association of adolescent obesity and diet

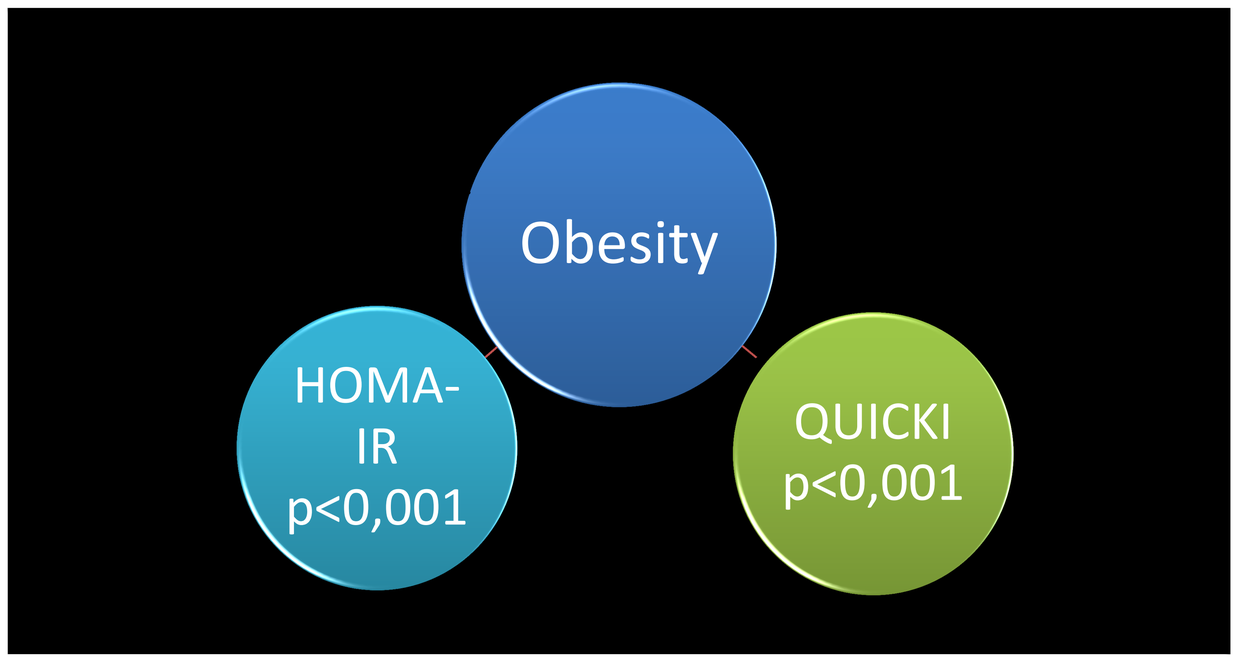

Figure 4. Association of obesity, HOMA-IR and QUICKI