

Childhood obesity in relation to parental weight status in Greece

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Dear Editor,

After perusing the report by Malindretos et al¹ on the relationship between children obesity status and their parents' weight status in Thesprotia, Greece, we believed that it would be of interest to publish the findings of our study concerning the prevalence and determinants of childhood obesity in another Greek region.

In particular, we conducted a cross-sectional, school-based study in children of middle socioeconomic class in seven schools in the region of Eastern Attica. The study population consisted of 797 students (mean age: 9.2±1.8 years, 430 boys). For the definitions of overweight and obesity in our analysis we used the age- and sex-specific cutoff points of body mass index (BMI) based on the centile curves of an international reference population².

Chi-square test and multiple linear regression analysis (with BMI as independent variable and with age, gender, father weight, mother weight and birth weight as independent) were applied in the total sample, to identify variables associated with childhood obesity status.

Overall, 70.1% (559/797) of the children had normal BMI, 21.6% (172/797) were classified as overweight and 8.3% (66/797) as obese. Girls were more frequently obese compared with boys (10.6% vs. 6.2% respectively, $p=0.04$). On multiple regression analysis, variables found to determine BMI ($R^2=0.14$) were: (1) age ($B=0.51\pm 0.08$, $p<0.001$), (2) father weight ($B=0.03\pm 0.01$, $p=0.001$), (3) mother weight ($B=0.07\pm 0.01$, $p<0.001$), while (4) gender tended only marginally to determine BMI ($B=0.51\pm 0.28$, $p=0.07$). Birth weight was not associated with current BMI.

Previous studies have shown that Greece has a predominant place with regard to childhood obesity, since it has been reported to have one of the highest prevalences worldwide with significant rising trends³⁻⁵. Indeed our study confirmed such high rates and moreover parental weight status was found to be a significant independent predictor of increased BMI in childhood. The latter observation could implicate both environmental and genetic factors in the pathogenesis of childhood obesity. In line with the suggestions of Malindretos et al, parental weight status should be taken into consideration in the anthropometric evaluation of each child.

References

1. Malindretos P, Doumpali E, Mouselimi M, et al. Childhood and parental obesity in the poorest district of Greece. *Hippokratia*. 2009; 13: 46-49.
2. Cole TJ, Bellizzi MC, Flegal KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. *BMJ*. 2000; 320: 1240-1243.
3. Georgiadis G, Nassis GP. Prevalence of overweight and obesity in a national representative sample of Greek children and adolescents. *Eur J Clin Nutr*. 2007; 61: 1072-1074.
4. Krassas GE, Tzotzas T, Tsameti C, Konstantinidis T. Prevalence and trends in overweight and obesity among children and adolescents in Thessaloniki, Greece. *J Pediatr Endocrinol Metab*. 2001; 14 (Suppl 5): 1319-1326.
5. Papadimitriou A, Kounadi D, Konstantinidou M, Xepapadaki P, Nicolaidou P. Prevalence of obesity in elementary schoolchildren living in Northeast Attica, Greece. *Obesity (Silver Spring)*. 2006; 14: 1113-1117.

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