

Prevalence of Overweight and Obesity in Children and Adolescents in Izmir, Western Turkey

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Objectives

Obesity and overweight are defined as energy metabolism disorders which result in excessive storage of fat and they may lead to physical and psychological problems (1,2). Childhood overweight and obesity appear to be rising rapidly in several locations around the world, affecting not only different countries but also different regions, races and ethnic groups (3). Although there is no nationwide systematic study investigating the prevalence of childhood obesity in Turkey, there are numerous studies reporting the childhood obesity locally (4). The aim of this study is to analyze the prevalence of overweight and obesity among children 5-20 years-old in İzmir, Turkey. We considered the age and gender differences, and analyzed the associations of obesity with family and physical activity.

Methods

This population-based, cross-sectional study was conducted in 36 schools (12 primary, 12 secondary, and 12 high schools) in rural and urban areas of İzmir city which is located in the western part of Turkey, between September 2015-February 2016. A total of 2447 children and adolescents in 5-20 age range were involved in the study. A structured questionnaire and written consent were administered to all parents of the children from primary schools. The students of secondary and high schools completed the questionnaire papers and written consent by themselves. The chronological age was calculated as the decimal age by subtracting the birth date from the observation date. Measurements of body weight and height were carried out by a trained nurse and a pediatric endocrinologist. Body weight was rounded to the nearest 0.1 kg with an electronic scale (SECA762; Vogel and Hakle, Humburg, Germany). Body mass indices (BMI) of the participants were compared using the BMI references for Turkish children and adolescents. For the height measurements, the subjects had to take off their shoes and stand erect against a vertical portable scale with their heels, buttocks, scapulae and the back of their heads touching the vertical plane.

Results

The sample set representing the age groups between 5 and 20 years consisted of 2447 subjects. Of the 2447 students, 37.1% (n=907) were attending high school, 39% (n=880) were attending secondary school and 27% (n=660) were attending primary school. The mean age was 12.43±3.32. In the entire group, there were 1157 (47.3%) boys and 1290 (52.7%) girls. It was identified that 392 (%16) students were obese and 297 (12.1%) students were overweight. The prevalence of obesity according to gender was 16.2% for girls and 15.7 % for boys (p>0.05). Of the 2447 students, 1087 (73.8%) were from urban and 640 (26.2%) were from rural areas. There was no statistically significant prevalence difference between age, gender, school level, rural and urban areas (p>0.05). There was significantly important difference between the prevalence of obesity and overweight among the families of obese and overweight children (p<0.001). There was no statically significant association between obesity and overweight and TV/PC use and the number of family members. The perception of obesity (being aware of obesity) was significantly higher in both obese and overweight group than normal weight groups (P<0.001).

Conclusions

The prevalence of obesity and overweight among children and adolescents is gradually increasing not only in the developed countries, but also in the developing countries. In this study it was observed that 16% of all children were obese and 12.1% were overweight. This findings revealed that the prevalences of overweight and obesity in children and adolescents were higher than a previously conducted study in İzmir (obesity 6.3%, overweight 9.9%). When we compared these findings with the previous studies in Turkey, the prevalence of obesity was detected higher than the previous studies while the prevalence of overweight was similar (the prevalence rates of obesity and overweight are ranging between %1,6- %7,8 ; %9,9-%17,6 respectively). Childhood obesity is gradually increasing in both rural and urban areas of İzmir and there was no significant different in obesity and overweight rates in both rural and urban areas. We found that the prevalence of obesity and overweight was similar in both genders. Having obese parents has shown to be a strong determinant of childhood obesity and overweight.

References

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