Parental body mass index is associated with adolescent overweight and obesity in Mashhad, Iran

Abstract

Objective: This cross-sectional study was carried out to determine the prevalence of overweight and obesity among secondary school children aged 12 to 14 years in the city of Mashhad, Iran and its association with parental body mass index. Methods: A total of 1189 secondary school children (579 males and 610 females) aged 12-14 years old were selected through a stratified multistage random sampling. All adolescents were measured for weight and height. Household socio-demographic information and parental weight and height were self-reported by parents. Adolescents were classified as overweight or obese based on BMI-for age Z-score. Multivariable logistic Regression (MLR) determined the relationship between parental BMI and adolescent overweight and obesity. Results: The overall prevalence of overweight and obesity among secondary school children in Mashhad was 17.2% and 11.9%, respectively. A higher proportion of male (30.7%) than female (27.4%) children were overweight or obese. BMI of the children was significantly related to parental BMI ($p<0.001$), gender ($p= 0.02$), birth order ($p<0.01$), parents' education level ($p<0.001$), father's employment status ($p<0.001$), and family income ($p<0.001$). MLR showed that the father's BMI was significantly associated with male BMI (OR: 2.02) and female BMI (OR: 1.59), whereas the mother's BMI was significantly associated with female BMI only (OR: 0.514). Conclusion: The high prevalence of overweight/obesity among the research population compared with previous studies in Iran could be related to the changing lifestyle of the population. The strong relationship with parental BMI was probably related to a combination of genetic and lifestyle factors. Strategies to address childhood obesity should consider the interaction of these factors.

Keyword: Obesity; Overweight; Adolescents; Body mass index; Parental BMI