Letter to Editor
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Prevalence of Obesity among Elementary School Students in Yazd in 2016

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Abstract

Background: Pediatric obesity is one of the most serious public health problems due to high prevalence and negative outcomes. The aim of this study was to estimate the prevalence of Pediatric overweight and obesity and some associated factors among students of elementary school in Yazd- Iran- 2016.

Methods: In this descriptive cross-sectional study, a total of 1253 healthy elementary school students were selected by multistage sampling. Body mass index (BMI) was calculated. The diagnosis of childhood overweight and obesity was based on WHO criteria. The parents of the students had the consent to participate in the study. Data analysis was performed by using SPSS version 16 software. Data were reported as mean ± standard deviation or frequency and analyzed by using chi-square test. P-value less than 0.05 were considered statistically significant.

Results: In this study 531 (42.4%) were male and 722 (57.6%) were female. In this study 11.5 % of the boys and 10.2 % of the girls were obese. Also, 10.2 % of the boys and 14.8% of the girls were overweight respectively. Relationship between gender and BMI was statistically significant ($P< 0.0001$). Obesity was more frequent in boys but overweight was more frequent in girls. The relationship between BMI and father's occupation ($P= 0.03$) and mother's occupation ($P= 0.03$) and mother's education ($P= 0.02$) was statistically significant.

Conclusion: Due to the high prevalence of obesity and overweight in primary school children, school-based interventions in this age group is necessary.

Keywords: Pediatric obesity, Overweight, Body mass index

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Introduction

Obesity is an important public health problem which underlie some other chronic illnesses (1-2). There is a growing concern that childhood obesity is likely to persist into adolescence and continue to adulthood (3), so, it has become an extremely important issue among health professionals in order to prevent or stop childhood obesity. The purpose of the present study was to evaluate the prevalence of childhood obesity in Yazd-2016.

Material and methods

This descriptive cross-sectional study was carried out in Yazd- 2016. A total of 1253 healthy elementary school students were selected by multistage sampling. The students were selected from two areas of Yazd education according to age and sex. Also, the students were selected in proportion to public and non-governmental schools (65% of public and 35% of non-governmental schools). Three primary schools for girls and three primary schools for boys from each of the 2 education districts of Yazd city were randomly selected and one class was randomly selected from each base from the first to fifth grade of each school and the students of those classes were examined. The students with chronic diseases such as diabetes or hypothyroidism, or medication need such as corticosteroids were excluded. Information gathering form was used to get the necessary data. Weight was measured to the nearest 0.1 kg using a digital portable scale with light clothes and no shoes. For height, children were instructed to stand as straight as possible with his/her back against a wall-mounted vertical ruler. Feet were flat on the floor with shoes removed. Then, BMI was calculated. In this study, the diagnosis of childhood overweightness and obesity was based on WHO criteria. BMI for age and sex were categorized into four groups as obese (BMI≥ 97th percentiles), over-weight (BMI≥ 85 and <97th percentiles), normal (BMI≥ 5th and <85th percentiles) and underweight (BMI< 5th percentiles) (4). After doing the measurements and registering in the Information gathering form, forms were delivered to the students to go to their home and completed by the parents. Parent's education and job were asked in these forms. Then, by returning to the schools, forms were gathered.

Statistical analysis

The sample size was calculated according prevalence= 10% based on previous studies (5), data was analyzed by using SPSS software version 16. Data were reported as mean ± standard deviation or frequency and chi-square test were used. $P< 0.05$ were considered statistically significant.

Ethical considerations

This research was presented to the ethics committee of Shahid Sadoughi University of Medical Sciences and approved by the community medicine department. The ethics committee approved the study with the number IR.SSU.MEDICINE.REC.1393.98.

Results

In this descriptive cross sectional study 1253 elementary students of Yazd city were studied. 531 (42.4%) were boy and 722 (57.6%) were girl. The mean (±SD) age of the students was 9.53 (±1.48) years old. The mean (±SD) of the height and weight and BMI of the student were 132.37 (±10.57) (cm), 29.55 (±9.77) (kg) and 16.48 (±3.31) (kg/m^2) respectively. 11.5% of the boys and 10.2% of the girls were obese and 10.2% of the boys and 14.8% of the girls had overweight respectively. Relationship between gender and BMI ($P= 0.0001$), father's career ($P= 0.03$) and mother's occupation ($P= 0.031$) and mother's education ($P= 0.02$) was statistically significant. In housewife´s mothers, 15.4% of students were overweight and 15.9% of them were obese but the prevalence of overweight and obesity in

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students of employee´s mothers were 12.3% and 9.9% respectively.

Conclusion

Our study shows high prevalence of obesity and overweight in elementary school students in Yazd. There was positive correlation between childhood BMI and parental occupation and maternal educational level. It is important to programs regarding diagnosis and prevention of obesity start in childhood period and should be considered in preventive national strategy programs.

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Conflict of Interest

There are no conflict of interest.

Authors' contributions

MM participated in the design of the study, performed the statistical analysis and writing the manuscript. AGH carried out supervision stages of project and conceived of the study, and participated in writing the manuscript as well and final approved of the version to be published. AA carried out collect samples and helped to draft the manuscript. MV conceived of the study, and participated in its design and coordination and helped to draft the manuscript. SAM carried out collect samples and helped to draft the manuscript. All authors approved the final manuscript.

References

1. Brantley PJ, Myers VH, Roy HJ. Environmental and lifestyle influences on obesity. The Journal of the Louisiana State Medical Society: Official Organ of the Louisiana State Medical Society. 2005;157:S19-27.
2. James PT. Obesity: the worldwide epidemic. Clinics in dermatology. 2004;22(4):276-80.
3. Tchoubi S, Sobngwi-Tambekou J, Noubiap JJ, Asangbeh SL, Nkoum BA, Sobngwi E. Prevalence and risk factors of overweight and obesity among children aged 6–59 months in Cameroon: a multistage, stratified cluster sampling nationwide survey. PloS one. 2015;10(12):e0143215.
4. Djalalinia S, Kelishadi R, Qorbani M, Peykari N, Kasaeian A, Nasli-Esfahani E, et al. A systematic review on the prevalence of overweight and obesity, in iranian children and adolescents. Iranian journal of pediatrics. 2016;26(3):e2599.
5. Akhavan KS, Falah R, Golestan M, Sadr BM. Prevalence and risk factors of obesity and overweight among primary school children in Yazd.Journal of Shahid Sadoughi University of Medical Sciences (JSSU). 2009; 16(5):8-13.(in Persian)

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