

Parental obesity can trigger obesity in children

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OBJECTIVES

- obesity is one of the nutritional and health issues in developing and developed countries(1)
- According to recent report from World Health Organization(WHO), obesity is a disease (2)which is associated with increased morbidity and mortality rate (3) and needs extensive preventive procedures and effective interferences. Etiology of obesity indicated as physical inactivity(4) , hormonal factors, child age at the beginning of the complementary feeding (5) ,over eating, parental especially maternal obesity(6), parental educational level and Maternal smoking(7) parental age and nutritional habits(8).
- Children with obese parent are in danger of becoming obese in their adolescence and adulthood even when trying to keep their weight stable.(9)
- As the best way to prevent obesity complications is detection of the risk factors, determining the prevalence of obesity and its risk factors in different age groups in each region is necessary for health programming. moreover, preventive programs of obesity are effective when parents actively participate in these programs(10)
- The aim of this study is to investigate the correlation between each parent's BMI and maternal age with weight status of children.

METHODS

- This is an analytic cross sectional study which was conducted on 12 years old students from different area in Rasht, north part of Iran. All of these cases admitted for routine physical examinations to the 15 urban health centers and were examined by physician.
- After classified proportionate to size in different regions of RASHT, the first case in each health center was randomly assigned and then with consideration of interval, the next case was examined. If the parent of the student was not satisfied, the next case was considered as study subject.
- In an appointment preceding the investigation, the study colleagues including physicians; supervisor and executive manager matched for the process of study.
- The checklist included demographic characteristics such as age, maternal age during child birth, student and maternal height and weight, child rank. Consent letter was obtained from each student and parents.
- Weight and height were measured by similar tools in all centers and calibrated daily to enhance validity and reliability of measurements. Also, the face and content validity of that inventory had been investigated by 5 physicians.
- Data were analyzed by Pearson correlation analysis, paired T test and ANOVA test and chi-square in SPSS software 19.0. A p-value less than 0.05 were considered statistically significant.

RESULTS

- 200 adolescent participated in this study which consisted 106(53%) boys and 94 (4%) girls. From the total 200 cases, 113(57.5%) were first child. Table 1 included the situation of distribution and mean of demographic information (BMI, weight, height and age) in students and their parents. Results showed significant correlation between students' BMI and parental BMI and father weight. ($r=.304, p<0.0001$)($r=0.257, p<0.0001$)($r=0.249, p<0.0001$)($r=0.166, p=0.019$). Also, there was significant correlation between students weight with parental BMI and father weight and birth rank.
- In final model Step wised Multiple linear regression analysis there were significant association between BMI in children and father's and mother's BMI and birth order ($p=.001, .004, .027$), respectively.. These variables can predict 14% of obesity risk in children . Data analysis with world cut off of obesity (85 percentile) in children show that father's ,mother' and parental ' BMI in obese and non obese children with p value and OR (with range)0.008,3.39(1.4-8.2) ,0.04,2.3(1.02-5.25) and 0.003,5.9(1.94-17.96) respectively have significant difference between obese and overweight and non obese and overweight children. In final model although child rank had no significant difference ($p= .067$, OR (range) =2.146 (.949-4.856) but in child rank more than 1, significant difference was noted

CONCLUSIONS

In conclusion, this study shows that mother's and father's BMI and birth order are the factors that can predict children obesity and these variables could have major role in predicting 14.4 % of high BMI cases. The role of family in changing nutritional habits of children must be considered, because through parental education and changing their perceptions we can prevent at least 14% of cases.

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