



## **Obesity and associated cardiovascular risk factors in Iranian children: a cross-sectional study.**

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**BACKGROUND:** Obesity is a growing public health problem in developing countries considering its association with cardiovascular risk factors. Relationship between childhood obesity and these risk factors has not been attested in the Iranian population before. The aim of the present study was to investigate frequency of cardiovascular risk factors and their association with severity of obesity in a sample of Iranian obese children. **METHODS:** A total of 13 086 children aged 7-12 years were screened and those with waist circumference = 90th percentile of their age were invited for further evaluations. Participants were divided into two groups of overweight or obese according to International Obesity Task Force criteria. Cardiovascular risk factors were defined as high fasting total cholesterol, high low density lipoprotein, low high density lipoprotein, high triglycerides, and systolic or diastolic hypertension. These factors were compared between obese and overweight children and their correlations with body mass index and other measures of obesity were tested.

**RESULTS:** Of 532 children (274 boys, mean age 9.5 +/- 1.3) enrolled in the study, 194 were overweight and 338 were obese. Mean levels of triglyceride and Apo-lipoprotein B in obese children were significantly higher than overweight participants. A total of 81.9% of obese children and 75.4% of overweight children had at least one cardiovascular risk factor. There were significant correlations between body mass index and systolic blood pressure, diastolic blood pressure, serum triglyceride, and Apo-lipoprotein B levels (P values <0.01).

**CONCLUSION:** The high prevalence of cardiovascular risk factors in overweight and obese children and positive correlation of these factors with severity of obesity emphasizes the need for prevention and control of childhood obesity from early stages.

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