


 [Current Issue](#) [Browse Issues](#) [Search](#) [About this Journal](#) [Instruction to Authors](#) [Online Submission](#) [Subscription](#) [Contact Us](#) [RSS Feed](#)

Acta Medica Iranica

2009;47(4) : 89-96

THE RELATIONSHIP BETWEEN LEPTIN AND INSULIN RESISTANCE IN IRANIAN OBESE CHILDREN

Anahita Hamidi, Abdolhamid Bagheri, Hossein Fakhrazadeh, Ramin Heshmat, Alireza Moayyeri

Abstract:

Background: Leptin is an adipocyte- derived hormone that plays an important role in the pathogenesis of obesity. Obesity is associated with insulin resistance and hyperinsulinemia. Insulin resistance is one of the factors which have been suggested to affect leptin serum levels. There are few studies evaluating the relation between leptin level and insulin resistance in childhood and adolescence obesity. The aim of the present study is to investigate this relationship in Iranian obese children. Methods: We screened 13089 primary school students aged 7-12 years. Children were divided to overweight and normal based on the recently published National Center for Health Statistics growth charts. The number of children which were overweight was 498, of whom 347 subjects participated in the study. Fasting blood glucose, insulin and leptin levels were measured and homeostasis model assessment (HOMA) of insulin resistance (HOMA-IR) and fasting glucose to insulin ratio (FGIR) were calculated and compared between two groups. Results: Serum leptin levels were significantly higher in overweight compared to normal group. (11.58 ± 8.1 and 8.1 ± 5.2 respectively $p < 0.05$). Before adjustment for BMI, there was a significant correlation between leptin and fasting insulin, HOMA -IR index and FGIR. ($r = 0.1$, $p < 0.05$, $r = 0.1$, $p < 0.01$, $r = 0.07$, $p < 0.05$ respectively). After adjustment for BMI, no significant correlation was found ($r = 0.097$, $p = 0.20$). Conclusion: The relation between leptin and insulin resistance was weak and disappeared after adjustment for BMI. It seems that many other factors including BMI and total fat amount may affect this relationship. Further studies in this field are required.

Keywords:

[Leptin](#)

TUMS ID: 1228

[Full Text HTML](#)  [Full Text PDF](#)  262 KB

top ▲

[Home](#) - [About](#) - [Contact Us](#)

TUMS E. Journals 2004-2009
Central Library & Documents Center
Tehran University of Medical Sciences

Best view with Internet Explorer 6 or Later at 1024*768 Resolutions