

## عنوان مقاله:

Assessment of Iron Metabolism-Related Parameters in Obese Children

## محل انتشار:

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## خلاصه مقاله:

**Objectives:** The aim of the study was to assess the possible associations among biochemical parameters that may be correlated with the possible mechanisms of iron metabolism in healthy children with normal body mass index (BMI), along with morbid obese (MO) children with and without metabolic syndrome (MetS). **Methods:** To this end, children aged ۶-۱۸ years with no history of any acute or chronic diseases were selected as the population of this prospective case-control study. Thirty MO children (with BMI higher than ۹۹th percentile and without MetS findings), ۲۸ MO children (with BMI higher than ۹۹th percentile and with MetS), and ۳۰ healthy children (with BMI values between ۱۵th and ۸۵th percentiles) participated in the study. Then, anthropometric measurements were recorded, followed by performing the complete blood count and serum iron profile. In addition, ferritin, transferrin, hepcidin, irisin, ferroportin, brain-derived neurotrophic factor (BDNF), WISP۱, and PTP۱/fortilin levels were measured using ELISA. Finally, statistical analyses were performed and  $P < 0.05$  was considered as the level of statistical significance. **Results:** Significant differences were obtained among the groups regarding anthropometric measurements, blood pressures, triacylglycerols, and high-density lipoprotein cholesterol levels. Further, there was a tendency toward an iron deficiency in both MO groups while an increase in ferritin levels was significant in the MetS group. However, BDNF, hepcidin, and ferroportin demonstrated no significant difference among the groups. Eventually, although the above-mentioned parameters were statistically insignificant, fortilin levels indicated a gradual decrease whereas irisin levels represented an increase from control group toward morbid obesity and MetS. **Conclusion:** In our study, obesity severity and the tendency toward iron deficiency were in accordance with each other. Particularly, different WISP-۱ levels in the groups may help predict future complications, along with its use in diagnosing obesity.

## کلمات کلیدی:

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