



RESEARCH ARTICLE

## Relationship between body mass index and lipid profile in obese Mexican children and adolescents: A retrospective analysis

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Received 30 April 2013; accepted 12 December 2013

### Abstract

**Background:** In Mexico, data related to the prevalence of dyslipidemia or an abnormal lipid profile in obese children and its relation to body mass index (BMI) are scarce. The objective of this study is to explore this association and the most common lipid profiles in obese children and adolescents.

**Methods:** Anthropometric and biochemical measurements were done on 289 children between the ages of 6 and 17 years, and the degree of correlation between lipid variables and BMI Z-score was established. Patients were classified according to abnormal lipid profiles. The most frequent profile was determined and the difference of their frequency according to Z-scores quartile.

**Results:** Z-score showed a positive correlation with total cholesterol (TC) and low-density lipoprotein cholesterol (LDL-C) levels ( $r = 0.214$ ,  $p < 0.001$  and  $0.228$ ,  $p < 0.001$ , respectively). The most frequent lipid profile was low high-density lipoprotein cholesterol plus hypertriglyceridemia ( $n = 128$ , 44.29%).

**Conclusions:** In obese children there is a positive correlation between BMI and TC and LDL-C levels. In these children, proatherogenic lipid profiles begin early in life.

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