Topic Area: Clinical Research (Including Outcomes of Intervention)

Abstract Title
Body composition assessment and nutritional status evaluation in Tunisian children

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Abstract

Background/Objectives: The study of body composition is an important step in the evaluation and assessment of nutritional status. This study aims to evaluate the body composition of children by two techniques impedancemetry and deuterium oxide dilution (D_2O) and to determine the correlation between nutritional status, socio-economic level and dietary habits.

Subjects/Methods: This study was carried out in 156 schoolchildren aged between 8 and 11 years. The children received interrogation specifying lifestyle and food habits. We conducted the study of body composition using two techniques: the technique of impedance and D2O technique.

Results: The results showed a difference between the percentage of obese and overweight children according to the BMIZ classification (30.1%), the impedance technique (14.7%) and the D_2O technique (42.9%). Despite the difference between the last two classifications, we found a significant correlation between body fat percentages determined by impedancemetry and D_2O technique ($r = 0.695$). There was no observed association of obesity with socio-economic level since the majority of overweight/ obese children (73.1%) were of middle socio-economic class. The study of eating behavior has shown frequent consumption of sugary foods and fast foods. However, no significant correlation was found between the overweight /obesity status and eating habits.

Conclusion: This study has demonstrated that the prevalence of overweight and obesity varied according the methods used. Thus, it would be interesting to use the technique of isotopic dilution as a reference technique for the real determination of the obesity prevalence and therefore a better monitoring of this public health problem.