عنوان مقاله:

Comparison between BMI and Inverted BMI in Evaluating Metabolic Risk and Body Composition in Iranian Children

محل انتشار:

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خلاصه مقاله:

Objectives: To compare BMI and inverted BMI in evaluating body measurement, resting blood pressure, Dual energy X-ray absorptiometry (DEXA) parameters of fat mass and metabolic risk factors in Iranian children Materials and Methods: This is a cross-sectional study on 477 children aged 9-18 yearsin the South of Iran. Weight, height, resting blood pressure, waist and hip circumference and pubertal stage of all participants was measured with standard methods. DEXA was used to determine body composition index. Blood samples were checked for serum lipid profiles and fasting blood sugar (FBS). Metabolic risk score (MRS) was calculated by the summation of the Z-scores for TC, TG/HDL, LDL, systolic blood pressure, and waist circumference minus HDL Z-score. Results: BMI did not have a normal distribution in our participants but iBMI had a normal distribution. IBMI had more significant correlation with waist to hip ratio and systolic blood pressure (r2=0.053 and r2=0.182) than BMI (r2=0.041 and r2=0.101). MRS had a positive correlation with BMI (P<0.05, r=0.466) and a negative correlation with iBMI (P<0.05, r=-0.458) in all children and both genders. Android/Gynecoid ratio had a positive correlation with BMI (P<0.05, r=0.497) and a negative correlation with iBMI (P<0.05, r=-.649). Fat mass index had a significant correlation with both BMI (P<0.05, r2=0.589) and iBMI (P<0.05, r2=0.541). Conclusion: This study revealed that iBMI could be a suitable alternative for BMI in estimating waist to hip ratio, resting systolic blood pressure, FBS, lipid profiles, fat mass index, Android/ Gynecoid fat ratio, and metabolic risk score. Because of normal distribution of iBMI, it is more reliable than BMI for use in statistical analysis.

کلمات کلیدی:

Anthropometry, Body mass index, Children, Inverted BMI