

Contribution of Different Anthropometric Measures to BMI towards Assessing Overweight and Obesity of (6-10Year) Children in Kolkata, India

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ABSTRACT Childhood obesity is emerging as one of the major health problems in India, especially in the urban India. A sample survey has recently been carried out in which 5218 children of classes I to IV were randomly drawn from 20 different schools in Kolkata. The Body Mass Index (BMI), Weight-for-Age Z-score (WAZ), Height-for-Age Z-score (HAZ) and various skinfold and body circumference measures are taken to assess the nutritional status of these children. In this paper, the researchers make an effort to find the reliability and validity of other anthropometric measures taking BMI measure as standard. The validity of WAZ percentiles to measure overweight and obesity compared to BMI percentiles has been found to be quite high (90% or more) and higher than other anthropometric measures. The validity increases as percentiles increase, whereas sensitivity decreases as percentiles increase. The sensitivity for WAZ at 99.9 percentile is only forty-four percent. The specificities supersede all these values. The values of specificity are found to be ninety-six percent or more and it has an increasing trend with the percentiles. The researchers have also found from ROC Curves that, apart from the combined variables, Mid-Upper-Arm-Circumference (MUAC) explains BMI best.