ABSTRACT

Childhood obesity is an emerging challenge for the developing country like Sri Lanka as it is a major risk factor for chronic diseases. Body fatness measures obesity or excess fat deposition in the body. Although anthropometric indexes like BMI for Age Z-score (BAZ) and Height for Age Z- score (HAZ) are commonly used to assess nutritional status of children, there may be differences between adiposity and nutritional status. This study was conducted to determine association between nutritional status measured by anthropometry and adiposity measured by Bioelectrical Impedance Analysis (BIA) method. For the study 215 students from age 6 to 17 years were recruited from two schools in two districts. Anthropometric measurements of weight and height were measured. Body fatness was measured using BIA method. WHO standards were used for the analysis of anthropometric data and BIA cut-off values were used for assess body fatness. According to the body fatness measured by BIA method; 32.4% of underweight girls and 50.8% of underweight boys (BAZ $\leq$ -1) and 70% of normal girls and 72.9% of normal boys (BAZ +1 to -1) had high body fat percentage and 53% of stunted girls and 60.4% of stunted boys (HAZ $\leq$ -1) were obese(high body fat percentage above BIA cut-offs).Body fat percentage measured by BIA has Significant correlation with BAZ(r=0.68) and HAZ (r=0.26). Although HAZ showed positive correlation with adiposity, stunted and normal children showed positive trend of having more adiposity.

Keywords: Bioelectrical Impedance Analysis, BMI for Age Z-score, Body fatness, Height for Age Z-score, Nutritional status