

Mid Upper Arm Circumference-for-age: an alternative method of assessing acute under-nutrition among preschool children

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In anthropometry, single measurement would be more convenient than taking two measurements to assess the malnutrition. Mid Upper Arm Circumference (MUAC)-for-age is preferable, especially in larger populations, as it is less time consuming. This study compared MUAC-for-age Z-scores (MUACZ) and weight-for-height Z-scores (WHZ) for the assessment of acute undernutrition among preschool children through a descriptive cross sectional study among 1400 children aged 6-36 months in Batticaloa and Kalmunai (Eastern Province, Sri Lanka) health districts. All measurements were taken by trained persons according to the standard protocols using calibrated equipment, after obtaining the informed written consent. Ethical clearance was obtained by a local ethical review committee. Descriptive statistics and logistic regression were performed using SPSS and WHO-anthro. The prevalence of MUACZ < -2 was 16.8% [95% confidence interval (CI); 14.1, 18.9] with the mean of -1.35 ± 0.65 (mean \pm SD). The prevalence of WHZ < -2 was 21.5% (95% CI; 18.8, 24.4) with the mean of -0.74 ± 1.12 . There was a considerable difference between the actual percentages of these two nutritional indicators. But the predictor like poor education, young mother, lower income and delayed commencement of complementary feeding were significantly ($p < 0.05$) associated with both nutritional indicators having higher odds ratios. However, assessing MUACZ is easier in comparison with WHZ where the latter requires two measurements to calculate. Therefore, MUACZ can be used to assess acute under-nutrition especially in field surveys and in situations where support personnel and materials are inadequate, and when screening large populations.

Keywords: low MUACZ, under-nutrition, wasting

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