

Reliability, technical error of measurements and validity of instruments for nutritional status assessment of children in the Third National Health and Morbidity Survey, Malaysia

ABSTRACT

The Third National Health & Morbidity Survey, Malaysia 2006 included nutritional status assessment of children. This study estimated the reliability, technical error of measurement (TEM) and validity of those instruments in 130 children below two from a paediatric clinic. Two nurses measured weight (WT) using Tanita digital weighing scale and Seca beam scale and length (LT) using Seca measuring mat and Stadiometer. Absolute mean difference (AMD) and intra-class correlation (ICC) for WT and LT indicated high inter and intra-examiner reliability. However, by Bland and Altman plot, LT were less reliable. Relative TEMs for WT were within acceptable limits whereas that of LT was slightly above the acceptable limits. The AMD and ICC showed that the test instruments were highly valid, but LT was less accurate. This study suggests that WT and LT in children below two using the test instruments were reliable and valid for a community survey. However, LT measurements require special attention.