



Estimating Stunting from Underweight Survey Data

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ABSTRACT Percentage of stunting in children is more informative than % underweight as the latter cannot distinguish between wasting (low weight-for-height) and stunting (low height-for-age). Yet, stunting is less often assessed than underweight due to practical problems in measuring length and height. Given that experts commonly cite a high correlation between child underweight and stunting, we developed a methodology to estimate child stunting on a population level, and examined its strength and weaknesses. Extracted survey data of the WHO Global Database on Child Growth and Malnutrition with both underweight and stunting estimates formed the basis of this analysis. We developed simple regression models using least squares method based on 604 records from 122 countries. The explanatory variable was % underweight (weight-for-age <-2 standard deviations of the NCHS/WHO reference population). The analysis focused on children 12-23 months old, sexes combined, since this age group showed the strongest correlations across regions and had similar slopes. Resulting regression equations showed sufficient ($r^2 \geq 0.70$) and consistent strength over time only in the regions of Asia. Empirical data reflect the expected relationship between child underweight and stunting prevalences in few regions only. Reason for this lack of correlation could be distinct determining factors related with a specific regional and/or local context. We conclude that the best way to get reliable estimates of child stunting is to measure length and height.

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