Questioning stunting and underweight as indicators of malnutrition

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ABSTRACT

In a note on the assessment and classification of protein-energy malnutrition in children, published in 1973, “stunting” was defined by percent height-for-age of the “Boston standard”, later, by “more than two standard deviations below the median height-for-age of the WHO Child Growth Standards". Stunting is not a synonym of mal- or undernutrition. The globally used critical cut-off values for height, weight and BMI for estimating the nutritional state, are false in short stature populations. Archeological evidence suggests significantly shorter stature in the Europeans and Near East people since the last 10,000 years. European data of the early 20th century illustrate that starvation affects growth only temporarily, and that even serious starvation for several years does not affect final height. Historic data document complete catch-up growth after refeeding starved children. Modern nutrition interventions fail to create any significant catch-up in growth in stunted LMIC populations indicating that nutrient deficiencies were not responsible for the short stature in many of these populations. Current publications on the so-called "double burden of malnutrition" fail to refer to arithmetic problems when defining BMI cut-off values for estimating the nutritional state in short populations.