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Editorial Note on Clinical Nutrition

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Editorial

Impaired linear growth in children, reduced length/height has for decades been viewed as a proxy for under nutrition. This anthropometric deficiency is termed stunting and is defined as height for age (HAZ) more than two standard deviations below the median of the WHO child growth standard [1]. A recent report by the UN Food and Agriculture Organization found that among children below five years worldwide were stunted. Although globally there is progress in reducing the number of stunted children, the world is behind course to meet the World Health Assembly goal of a 40% reduction. Notably, while most interventions to curb stunting has focused on children below 5 years, far less resources have been directed at correcting linear growth deficiencies among older children. Moreover, due to the worrisome food insecurity in countries, stunting continues to be rampant in many regions on the African continent [2]. The widespread use of stunting as an indicator of linear growth failure and as a predictor of negative health outcomes and mortality later in life, largely stems from its robustness and low cost for use in demanding resource-strained settings [3]. However, stunting alone does not necessarily capture how adverse nutritional exposures affect more refined aspects of growth, impact on the dynamics in child growth over time and on subsequent risk of disease in adolescent and adult life. In addition, stunting does not take into account body composition, a measure that has the potential to better unlock how events in utero, postnatally and early childhood, may shape the nutritional and metabolic health of the individual child. Importantly, body composition, in particular fat [4]. Lean body mass distribution, may vary among children with similar anthropometrical measures. In addition, ethnic variations in normal child growth patterns might be missed using the WHO growth standard for stunting that is based on growth data from different populations [5]. Also relevant in this context is the recent claim. That instead of using stunting as a marker of under nutrition, one should use catch-up growth as indicator of past undernourishment [6].

Primarily to prevent impaired linear growth, we conducted the "Child Nutrition and Development Study" a two-armed, pragmatic cluster-randomized controlled trial (RCT). In that trial we examined child anthropometrical effects of a maternal education intervention focusing on nutrition, hygiene and child stimulation in South-Western Uganda, a part of the country with high prevalence of stunting. The trial included 511 mother child pairs and started when the children were 6–8 months [7]. We found no significant effect of this intervention on height at child age of 20–24 months, but in the intervention group there was a significant reduction in growth faltering when the children were 36 months.

Monitoring child growth patterns over time is essential to evaluate long-term effects of interventions given at early child ages. Thus, we have now performed a follow-up of our RCT cohort when the children reached, at the time of school start. This unique longitudinal data set allowed description of both anthropometry and growth velocity trajectories [8]. In addition, we collected body composition data. Intervention villages did not share common geographical boundaries with control villages to prevent "contamination" of intervention-contents between the two study groups. Exclusion criteria were congenital malformations or physical handicap among children that would influence food intake, growth, mental or brain illness as evidenced by mother or health worker. An education intervention emphasizing nutrition, hygiene and stimulation was delivered to mothers in the intervention group as described in the Supplementary Methods and as previously detailed [9]. In short, cooking and oral hygiene demonstrations together with making of play toys to promote child stimulation, were parts of the education intervention package [10]. The intervention lasted six months in which each group of mothers received three main education sessions followed by monthly village meetings.

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