Home- and community-based growth monitoring to reduce early life growth faltering: an open-label, cluster-randomized controlled trial

Background: Despite the continued high prevalence of faltering growth, height monitoring remains limited in many low- and middle-income countries. 

Objective: The objective of this study was to test whether providing parents with information on their child’s height can improve children’s height and developmental outcomes.

Design: Villages in Chipata District, Zambia (n = 127), were randomly assigned with equal probability to 1 of 3 groups: home-based growth monitoring (HBGM), community-based growth monitoring including nutritional supplementation for children with stunted growth (CBGM+NS), and control. Primary study outcomes were individual height-for-age z score (HAZ) and overall child development assessed with the International Fetal and Newborn Growth Consortium for the 21st Century Neurodevelopment Assessment tool. Secondary outcomes were weight-for-age z score (WAZ), protein consumption, breastfeeding, and general dietary diversity.

Results: We enrolled a total of 547 children with a median age of 13 mo at baseline. Estimated mean difference (b) in HAZ was 0.127 (95% CI: 20.107, 0.361) for HBGM and 20.152 (95% CI: 20.341, 0.036) for CBGM+NS. HBGM had no impact on child development [b: 20.017 (95% CI: 20.133, 0.098)]; CBGM+NS reduced overall child development scores by 20.118 SD (95% CI: 20.230, 20.006 SD). Both interventions had larger positive effects among children with stunted growth at baseline, with estimated interaction effects of 0.503 (95% CI: 0.160, 0.846) and 0.582 (95% CI: 0.134, 1.030) for CBGM+NS and HBGM, respectively. HBGM increased mean WAZ [b = 0.183 (95% CI: 0.037, 0.328)]. Both interventions improved parental reports of children’s protein intake.

Conclusions: The results from this trial suggest that growth monitoring has a limited effect
on children’s height and development, despite improvements in self-reported feeding practices. HBGM had modest positive effects on children with stunted growth. Given its relatively low cost, this intervention may be a cost-effective tool for increasing parental efforts toward reducing children’s physical growth deficits.

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