

RESEARCH ARTICLE

The role of nutrition-sensitive agriculture combined with behavioral interventions in childhood growth in Ethiopia: An adequacy evaluation study

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Abstract

Objective: The study aimed to investigate the role of nutrition-sensitive and specific interventions along with nutrition education on child stunting during the first 1000 days in Ethiopia.

Methods: An adequacy evaluation study was used to see changes between the baseline and end-line data after following for 1 year. A sample of 170 mother-child pairs who had a 1-year follow-up was used to detect differences. We performed structural equation modeling to elucidate changes in feeding behaviors, socioeconomic status, water, sanitation and hygiene on child linear growth. Furthermore, the independent effect of covariates on child linear growth was handled using a general linear model.

Results: A total of 170 and 270 mother-child dyads were interviewed at baseline and end-line surveys, respectively. After about 1 year of intervention, the annual rate of stunting prevalence declined from 29.3% (95% confidence interval [CI] = 18.6, 42.7) to 16.4% (95% CI = 10.7, 24.2). There was a significant change in the mean of length-for-age Z-score which changed from -1.18 to -0.45 ($P < .034$). Adjusting for the different constructs of the health belief model, child sex, age, feeding behaviors, and dietary diversity, one egg consumption per day was responsible for the most significant variability explained (36%) for stunting reduction.

Conclusions: Sustainable access to egg consumption for children below 2 years experienced a substantial reduction in childhood stunting. A combination of nutrition-sensitive agricultural and direct nutrition interventions along with behavioral-based education is a sustainable strategy in reducing and preventing child growth from faltering in the early life stages.

Abbreviations: ADA, agricultural development agency; ASF, animal source food; CBDS, Child Dietary Diversity Score; CPA, confirmatory factor analysis; CR, comparative trials; FAO, food and agriculture organization; GFI, goodness of fit index; HBMA, health belief model; HEW, health extension worker; IYCF, infant and young child feeding; LAZ, length-for-age Z-score; MAD, minimum acceptable diet; MDD-10, minimum dietary diversity for women; MMR, minimum meal frequency; MUAC, mid upper arm circumference; RMSEA, root mean square error of approximation; SEM, structural equation modeling; SPSS, standard and real mean square method; TLF, Tracker Levels Index; UNICEF, United Nations International Children's Fund; WASH, water, sanitation and hygiene; WDA, women development army.

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Nutrition And Chemical Growth In Childhood Volume I Evaluation

G. H. Bourne



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