

In-home Observations are a Useful Tool to Assess the Household Enabling Environment for Child Nutrition in Burkina Faso and Sierra Leone



Alexandria Schmall¹, Ilana Cliffer^{1,2}, Stacy Griswold¹, Hannah Cai¹, Patrick Webb¹, Beatrice L. Rogers¹

¹Tufts University Friedman School of Nutrition Science and Policy, ²Harvard School of Public Health



Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy

Background

- Two Food Aid Quality Review (FAQR) field studies assessed the effectiveness and cost-effectiveness of four specialized nutritious foods (SNF) to prevent and treat malnutrition among children 6-24 months old in Burkina Faso and 6-59 months old in Sierra Leone.^{1,2}
- In-home observations were conducted to understand household use, including caregiver preparation and child consumption of SNFs.³

Research Aims

Assess household and caregiving factors that may influence child nutrition, including child feeding, care, and hygiene practices among caregivers, and sanitary conditions of the home environment in Burkina Faso and Sierra Leone.

Methods

Data Collection

- Local enumerators conducted 3-5-day in-home observations (IHO) among subset of recipient households in Sierra Leone (n=321) & Burkina Faso (n=176)
- Enumerators recorded household activities from 6am-6pm using time-stamped surveys and detailed observation notes, focused on recipient child consumption of study foods and other feeding and care behaviors

Qualitative Content Analysis

- Codebooks for both countries were developed using research questions and iteratively updated after reviewing enumerator notes transcripts
- Intercoder reliability assessed
- Codebook applied to transcripts using NVivo 12
- Detailed enumerator notes transcripts were analyzed using qualitative content analysis (English, French)

Results

Household Environment

- Frequent visits to home compound by neighbors, family
- Families in Burkina Faso resided in multi-family compounds
- Caregivers cleaned courtyard daily in Sierra Leone
- In Burkina Faso, domestic animals were frequently present, courtyards littered

Child Environment

- Children sit and play on household or courtyard floor, on mats, wood benches
- Primary caregivers were mothers and grandmothers
 - Other adult women, fathers
 - Few child caregivers
- Child fed on home floor, wooden bench, caregiver lap, mat
- Frequent mouthing toys, soil, household objects, fingers, etc.
 - Child mostly access objects while sitting on floor
 - Hands not washed afterwards

Illustrative Quotes:

Sierra Leone:

“Mother brought out [recipient] child and put her out on the floor to sit and gave her a bunch of keys, [recipient] child rubs the keys on the ground and put it into her mouth for 2 minutes.”

Burkina Faso:

“Very mobile and well awakened [recipient] child. Child plays a lot in dirty places, eats soil, drinks dirty water. Most of the drinking water comes from the dam. The courtyard is comparable to a bin where domestic animals and people live. Hygiene barely exists.”

Results cont.

Water, Sanitation, Hygiene (WASH) Practices

- Poor handwashing and food hygiene practices among caregivers, daily bathing of children (soap use varied)
- Households used water from community pump or streams
- Water scarcity was a challenge in Burkina Faso

Child Feeding

- Children consumed poor quality, starchy diets
 - Burkina Faso had slightly more varied child diets
 - Children fed from same meal pot throughout day
- Children consumed two meals, plus breastfeeding
 - Child feeding during illness was poor
- Portion of study food consumed; leftovers shared to siblings

Illustrative Quotes:

Sierra Leone:

“Mother is preparing the family evening meal. Her siblings, are assisting her in the kitchen. While she is preparing the cassava and potato leave sauce, caregiver carry [recipient] child on her back.”

Burkina Faso:

“Around 6am [the recipient child] asked to eat SC+ porridge, her mother given her a scoopful eat. She finishes eat and asked for rice to eat. At 7:00 am again she asked to eat SC+ porridge, her mother given her a scoopful to eat. Her siblings eat at the same time as her, all the porridge. [Recipient child] cried and asked for more SC+ porridge and her mother was going to serve her another scoopful.”

Conclusions

- Future nutrition interventions should consider approaches that address multiple factors, including diets, WASH, and childcare, that contribute to an enabling environment for child nutrition.
- Feasible for field application, the IHO method may be used in nutrition programs to provide information beyond what could be obtained accurately from caregiver self report.
- IHO data may help inform context-specific nutrition behavior change communication strategies.

Acknowledgements & References

Ethical approval provided by the Tufts University SBIR Institutional Review Board (N710001-AID046). Funding provided by USAID Bureau for Humanitarian Assistance. Authors acknowledge the Food Aid Quality Review (FAQR) team and the study participants for their contributions.

1. Griswold, S. P., Langlois, B. K., Shen, Y., Cliffer, I. R., Suri, D. J., Walton, S., Chui, K., Rosenberg, I. H., Koroma, A. S., Wegner, D., Hassan, A., Manary, M. J., Vosti, S. A., Webb, P., & Rogers, B. L. (2021). Effectiveness and cost-effectiveness of 4 supplementary foods for treating moderate acute malnutrition: results from a cluster-randomized intervention trial in Sierra Leone. *The American Journal of Clinical Nutrition*. <https://doi.org/10.1093/ajcn/nqab149>
2. Cliffer, I. R., Nkietia, L., Langlois, B. K., Zeba, A. N., Shen, Y., Lanou, H. B., Suri, D. J., Garaneet, F., Chui, K., Vosti, S., Walton, S., Rosenberg, I., Webb, P., & Rogers, B. L. (2020). Cost-Effectiveness of 4 Specialized Nutritious Foods in the Prevention of Stunting and Wasting in Children Aged 6–23 Months in Burkina Faso: A Geographically Randomized Trial. *Current Developments in Nutrition*, 4(2). <https://doi.org/10.1093/cdn/nzaa006>
3. Griswold, S., Schmall, A., Lee, H., Cliffer, I., Webb, P., & Rogers, B. (2021). Additional Analysis of Two Field Studies Comparing Four Supplementary Foods for Treatment or Prevention of Malnutrition. Report to USAID from the Food Aid Quality Review. Boston, MA: Tufts University. <https://foodaidquality.org/additional-analysis-two-field-studies-comparing-four-supplementary-foods-treatment-or-prevention>