

Engaging Fathers for Effective Child Nutrition and Development in Tanzania (EFFECTS)



Study Outcomes

Primary outcomes (child)

- Child dietary diversity
- Child growth
- Child cognitive, language, motor development

Secondary outcomes (caregiver)

- Maternal and paternal infant and young child feeding (IYCF), water, sanitation, and hygiene (WASH), and parenting knowledge and practices
- Maternal and paternal parenting stress and depressive symptoms
- Household gender equality and women's empowerment



BACKGROUND

Globally, 250 million children fail to meet their developmental potential in the first five years of life, with detrimental consequences for future health, learning, and economic productivity. Malnutrition, inadequate stimulation, and gender inequality are significant risk factors for poor child growth and development in Northern Tanzania.

RESEARCH OVERVIEW

The EFFECTS 5-arm cluster randomized trial was implemented in Mara, Tanzania by Project Concern International (now Global Communities) from 2018–2020 with the Harvard School of Public Health, Purdue University, and the Africa Academy for Public Health. The study measured the effects of engaging fathers (compared to mothers only) and bundling child nutrition and parenting interventions (compared to nutrition only interventions) on child nutrition and development outcomes.

INTERVENTION HIGHLIGHTS

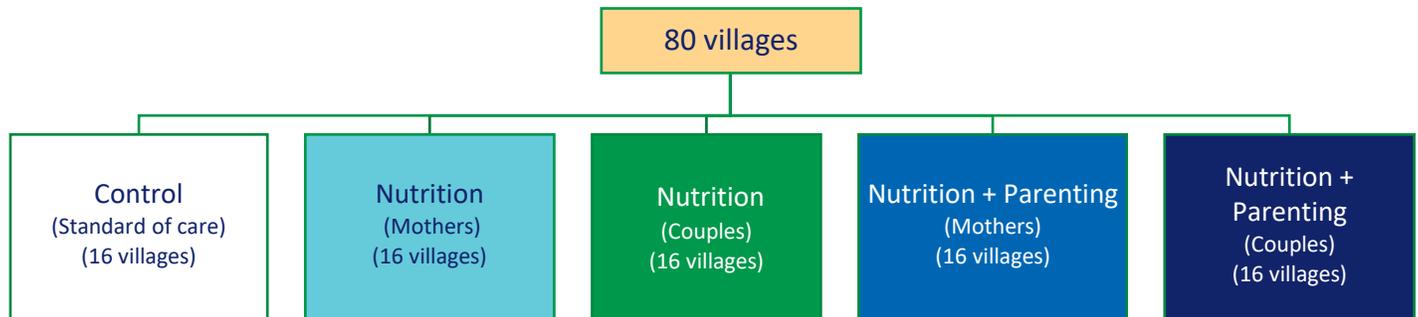
- Nutrition and bundled nutrition and parenting behavior change interventions delivered through community health workers to groups of mothers and fathers
- 24 sessions delivered over 12 months with gender-separate and mixed gender (couples) sessions.
- Groups met bi-monthly for first nine months, with 3-month pause due to COVID-19, then resumed last 3 months using a home visit model
- Unique evidence-based intervention packages for mothers and fathers developed after extensive qualitative research and pilot testing.
- Emphasis on discussion, problem-solving, coaching, skill-building, scaffolding of skills, and commitment setting.
- Addressed enabling environment for care including food access, gender norms and roles, and couples' communication and decision-making.



Diagram: The Nurturing Care Framework draws attention to strengthening care for young children as a common mediator of nutrition, stimulation and early learning, health, and protection interventions for child wellbeing (Britto et al., 2017).

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Study Design

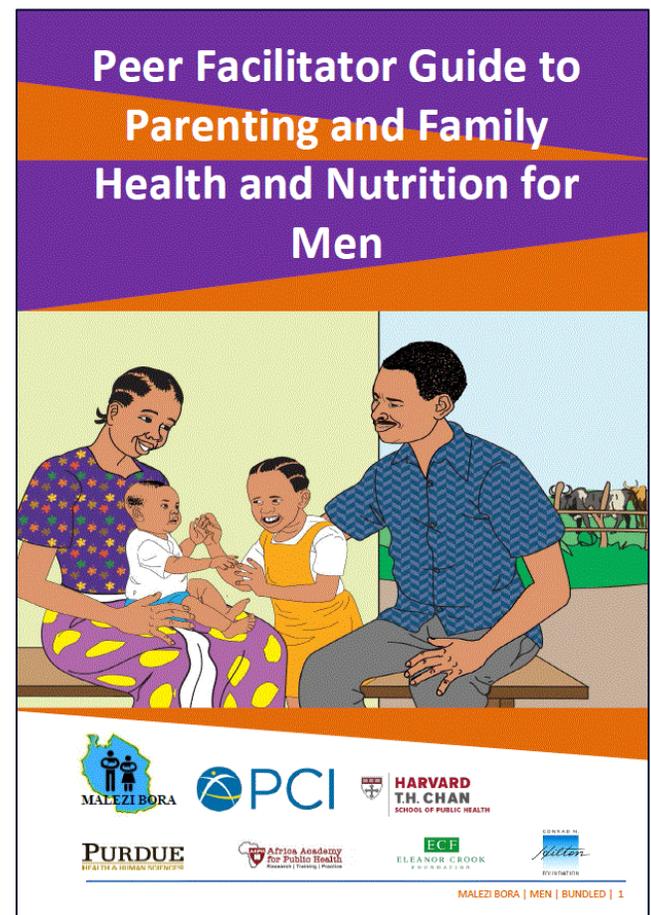


A cluster randomized controlled trial enrolled 960 families with children 0–18 months from 80 villages (12 households per village) into one of five trial arms:

1. **Mothers nutrition:** IYCF, food access, baby WASH, managing stress, couples communication
2. **Couples nutrition:** IYCF, food access, baby WASH, managing stress, gender norms and roles, couples communication and conflict resolution, household decision-making
3. **Mothers nutrition + parenting:** IYCF, food access, baby WASH, managing stress, couples communication, responsive caregiving, play and communication, positive discipline
4. **Couples nutrition + parenting:** IYCF, food access, baby WASH, managing stress, gender norms and roles, couples communication and conflict resolution, household decision-making, responsive caregiving, play and communication, positive discipline
5. **Passive control** (standard of care)

Evaluation timepoints:

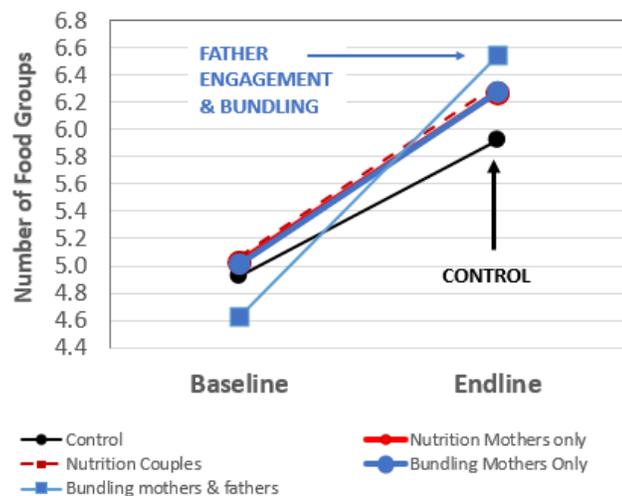
- Baseline (0 months)
- Midline (6 months of intervention delivery)
- Endline (12 months of intervention delivery)



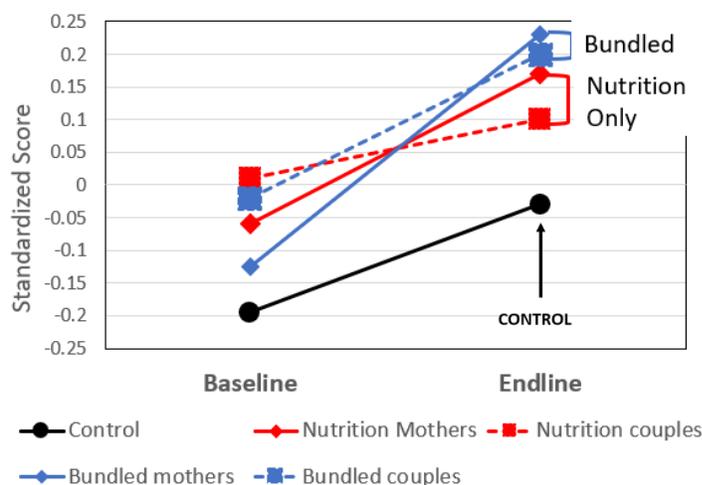
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Summary of Results

Plot 1: Children's 7-day Dietary Diversity



Plot 2: Children's Receptive Language



CHILD NUTRITION & DEVELOPMENT

- Engaging fathers (compared to mothers only) while providing bundled nutrition and parenting content (compared to nutrition only) increased child dietary diversity over 24 hours ($p < 0.001$) and 7 days ($p = 0.01$) (Plot 1).
- Bundling nutrition and parenting interventions (compared to nutrition only interventions) improved children's cognitive development ($p = 0.045$) and receptive language development ($p = 0.047$) (Plot 2).
- Any intervention improved children's length-for-age z-scores compared to the control ($p = 0.03$) with no main effects of father engagement or bundling.

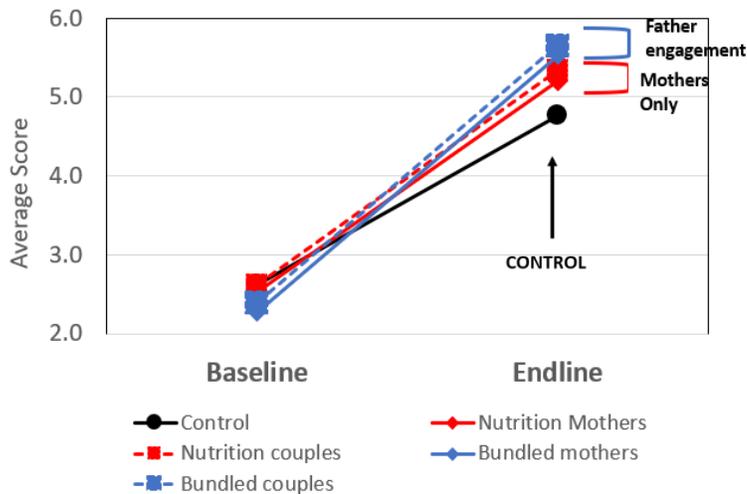
IYCF AND WASH PRACTICES

- Engaging fathers (compared to mothers only) increased the likelihood of fathers preparing food for their child in the past 2 weeks ($p < 0.0001$). The increase was greatest in the couples bundled arm.
- Engaging fathers (compared to mothers only) increased the likelihood that fathers grew new nutritious crops in the past 6 months ($p = 0.015$) and that fathers washed their hands ($p = 0.006$) and their child's hands ($p = 0.028$) at the critical times.
- Bundling nutrition and parenting (compared to nutrition only) interventions increased the likelihood that mothers grew new nutritious crops in the past 6 months ($p = 0.007$).
- Any intervention (compared to the control) increased the likelihood of mothers putting money aside for purchasing nutritious foods ($p = 0.001$), fathers purchasing special foods for the child in the past month ($p = 0.024$), and households consuming clean and safe water at home ($p < 0.0001$).

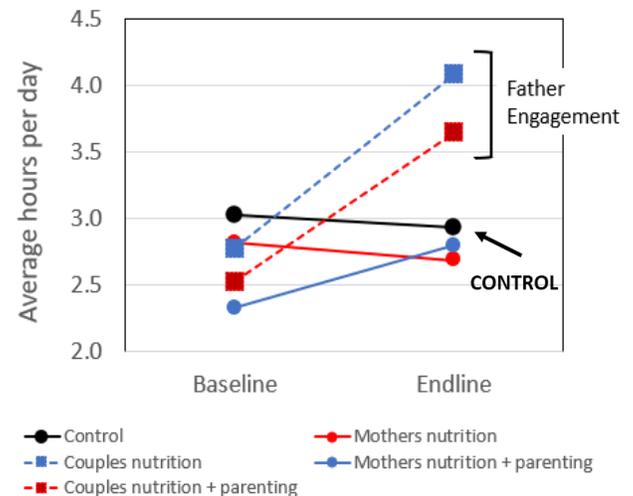
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Summary of Results

Plot 3: Paternal Stimulation



Plot 4: Fathers Daily Time Spent on Domestic Work



PARENTING PRACTICES

- Engaging fathers (compared to mothers only) improved paternal stimulation practices ($p < 0.001$) with greatest improvement in the couples bundled arm (Plot 3).
- Bundling of nutrition and parenting (compared to nutrition only) interventions improved maternal stimulation practices ($p = 0.024$), increased the variety of learning materials in the home ($p = 0.007$), reduced paternal parenting distress ($p = 0.007$), and reduced maternal use of harsh discipline ($p = 0.034$).
- Engaging fathers had a significant positive effect on maternal responsive feeding when couples were also exposed to bundled (nutrition & parenting) content compared to nutrition-only content ($p = 0.002$).

GENDER EQUALITY & WOMEN'S EMPOWERMENT

- Engaging fathers (compared to mothers only) led to greater maternal ($p < 0.0001$) and paternal ($p = 0.002$) rejection of patriarchal norms, an increase in fathers' time spent on domestic chores (> 1 hour, $p < 0.0001$) (Plot 4), and an increase in women's decision-making power ($p = 0.021$).
- Any intervention reduced mothers' exposure to intimate partner violence (IPV) compared to the control ($p = 0.002$). Bundled nutrition and parenting interventions had a greater impact on IPV reduction compared to nutrition-only interventions ($p = 0.012$).
- Engaging fathers had the most significant positive effect on couples communication frequency ($p = 0.035$) and maternal dietary diversity ($p = 0.004$) when couples were also exposed to bundled content compared to nutrition-only content.

Key Takeaways

- Bundled nutrition and parenting interventions had greater benefits to child development, child diets, nutrition and parenting practices, and household gender equality compared to nutrition-only interventions.
- Engaging couples in nutrition and parenting interventions had greater benefits to child diets, maternal and paternal care practices, household gender equality, and women's empowerment compared to interventions that engage only mothers.
- Nutrition and parenting programs should engage both mothers and fathers and be delivered together to maximize benefits to child, maternal, and family well-being.