

# Do community gender equitable attitudes influence child feeding practices and nutritional status in low resource settings? Evidence from Tanzania

## Extended Abstract

### Authors:

Natasha C. Allard, MBA, MS, PhD student; Policy Research Solutions (PRESTO)

Happyness Nyaborogo, PhD student; University of Dar es Salaam

Paul Luchemba, MSc; Tanzania Social Action Fund

Tumpe Mnyawami Lukongo, MA; Tanzania Social Action Fund

Tuzie Ndekia, MS; UNICEF Tanzania

Luisa Natali, PhD; UNICEF Tanzania

Kate Rogers, PhD, MPH; Policy Research Solutions (PRESTO)

Leah Prencipe, PhD, MPH; Policy Research Solutions (PRESTO)

Stephanie Anzman-Frasca, PhD; University at Buffalo

Tia Palermo, PhD; Policy Research Solutions (PRESTO)

On Behalf of the Stawisha Maisha Evaluation Team\*

**Background.** Tanzania suffers from high levels of child malnutrition, with nearly a third (30%) of children under 5 stunted (low height-for-age) in 2022.<sup>1</sup> Childhood malnutrition has negative consequences across the life course, contributing to child mortality, disability, cognitive impairment, chronic disease, and reduced productivity in adulthood.<sup>2</sup> In Tanzania, stunting, which is largely driven by suboptimal infant and young child feeding practices, is more prevalent in rural areas and among lower wealth quintiles.<sup>1</sup> In efforts to encourage healthy infant and child development, the World Health Organization (WHO) and UNICEF provide evidence-based infant and young child feeding guidelines, including introducing solid, semi-solid, or soft foods into a child's diet between ages 6 and 8 months.<sup>3</sup> Introducing solids too early (before the age of 6 months) or too late (after 8 months or older) can negatively impact child health and increase stunting risk.<sup>4,5</sup> There are multiple barriers to improving child feeding practices, including poverty and limited access to adequate foods, lack of knowledge on age-appropriate nutritional needs, and individual and community-level gender norm attitudes, among others. Inequitable gender attitudes have been shown to negatively impact child stunting risk and mothers' autonomy for making decisions about child feeding.<sup>6</sup> Given the urgent need to improve child feeding practices and stunting prevalence among rural, low wealth households in Tanzania, in this study we aimed to: 1) identify risk factors associated with stunting and untimely solid feeding and 2) examine how community level gender attitudes are associated with each outcome.

**Methods.** This study uses baseline child level data (N=3,605) from the Stawisha Maisha Evaluation which is being conducted to estimate the impacts of a cash plus programme on child nutrition related outcomes among beneficiaries of the Productive Social Safety Net II (PSSN II). In 2023, 2,250 surveys were administered to eligible households across 150 villages in the Geita, Rukwa, and Ruvuma regions of Tanzania. For each household, a primary caregiver of a child under

five years was interviewed on a range of outcomes related to child feeding, nutrition knowledge, and gender equitable attitudes. Anthropometrics, namely height, weight, and mid upper arm circumference, were collected among all children under 5 years of age. To measure community level gender attitudes, we included 24 items from the Gender-equitable Men Scale (GEM Scale). We calculated non-self-clustered mean GEM scores by village and then ranked them into tertiles (high, middle, low), whereby lower levels indicated less equitable attitudes. We used multivariate logistic regression to determine risk factors for child stunting (<2 SD below standard height-for-age z-score) and untimely solid feeding (first solid before 6 months or after 8 months). We then implemented generalized linear models (GLM) with a Poisson distribution and log link function to estimate associations between stunting or untimely solid feeding prevalence and community gender equitable attitudes (high tertile communities versus low/middle tertile communities) as reported by prevalence ratios (PR). Estimates were calculated on the child level and standard errors were adjusted for clustering at the village level. The models were adjusted for household (e.g., food security, water security, living conditions, etc.), caregiver (e.g., education, literacy, etc.), and child (e.g., living with biological mother, age, etc.) characteristics.

**Results.** Overall, 42.4% (n=1,477) of children measured in the sample were stunted. Caregivers reported untimely solid feeding for approximately a third of the sample (34.5%, n=1,067), among whom half were fed too young (49.7%) and half too old (50.3%). Stunting risk factors were identified as living in the Rukwa region (compared to Geita), living in a house with an earth/mud floor, and being a male child. Risk factors for untimely solid feeding included living in Ruvuma (compared to Geita), living in a water insecure household, and having a primary caregiver with no formal education. Community level gender attitudes were significantly associated with untimely solid feeding but not stunting; children living in communities with high gender equitable attitudes had a lower prevalence of untimely solid feeding (PR=0.84, 95% CI=0.74-0.96, p=0.012) when compared to communities with low or middle gender equitable attitudes. When stratified by child sex, community level gender equitable attitudes were not associated with untimely feeding for females, but among males high community gender equitable attitudes were associated with an lower prevalence of untimely solid feeding among male children (PR=0.82, 95% CI=0.69-0.98, p=0.027, when compared to communities with low or middle gender equitable attitudes).

**Conclusion.** In a sample representative of PSSN participating households with children under five years in three districts, male children were at greater risk for stunting than females. However, male children who live in communities with more gender equitable attitudes are 18% less likely to experience a known stunting risk factor, untimely first solid foods. Previous studies have found male children are at greater stunting risk; however the mechanisms that perpetuate this risk remain partly unexplained.<sup>7</sup> Some studies suggest possible social and environmental factors, such as believing male children need more food and thus potentially feeding solid foods too early (which inadvertently increases their risk of stunting).<sup>7</sup> The current study elucidates the importance of gender attitudes. In more gender equitable communities, there may be less differential feeding treatment between males and females and thus males may be protected from the negative effects of untimely solid feeding. Future qualitative research is needed to further explore how gender attitudes impact child feeding practices.

**\* Stawisha Maisha Evaluation Team**

**Policy Research Solutions (PRESTO):** Tia Palermo (co-Principal Investigator), Natasha Allard, Gustavo Angeles, Stephanie Anzman-Frasca, Leah Prencipe, Kate Rogers

**EDI Global:** Johanna Choumert Nkolo (co-Principal Investigator), Respichius Mitti (co-Principal Investigator), Rachel Bowers, Artee Gungah, Marie Mallet, Prakhar Saxena, Sarafina Safari, Sosthenes Alex, Josephine Donasian Shayo

**Muhimbili University of Health and Allied Sciences (MUHAS):** Lusajo Kajula (co-Principal Investigator)

**Empathea:** Lusajo Kajula (co-Principal Investigator), Graca Marwarwe, Agness Ignass, Anitha Mapunda

**Tanzania Social Action Fund:** Paul Luchemba, Tumpe Mnyawami Lukongo, Zuhura Mdingi

**UNICEF Tanzania:** Diego Angemi, Patrick Codjia, Tuzie Edwin Ndekia, Jennifer Matafu, Luisa Natali, Patricia Ruddy

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