



Co-designing “Familia Bora”: a father-inclusive parenting intervention for couples with young children in Mwanza, Tanzania

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ABSTRACT

This paper describes the development of *Familia Bora* (“Good Family”), a multicomponent, father-inclusive parenting intervention aimed at enhancing caregiving practices of both fathers and mothers, strengthening couples’ relationships dynamics, improving parental mental health and gender equity, and ultimately promoting early childhood development. From 2022 to 2024, we co-designed this intervention in Mwanza, Tanzania through a multi-phase, community-based, and iterative process grounded in a collaborative and equitable research-practice partnership. We began with a systematic review of father-inclusive interventions followed by a qualitative formative research study to identify priority fatherhood behaviors and contextual determinants of fathering in the local Tanzanian context. We then co-designed intervention content to address the multifaceted dimensions of fatherhood by integrating family systems, gender-transformative, and developmental perspectives and aiming to ensure cultural and contextual relevance. We piloted and iteratively refined individual sessions through 54 rapid pretesting cycles with 381 parents (53% mothers, 47% fathers) across 13 communities and incorporated participant feedback to continuously improve content and delivery and ensure cultural relevance and acceptability. This process resulted in a structured, manualized curriculum for a community-based group parenting program for fathers and their partners with young children aged 0–2 years. The curriculum holistically promotes nurturing care, couples’ relationships, caregiver mental health, and gender equality by applying a gender-transformative lens, centering child development throughout, and framing parenthood as a multidimensional role. Overall, this study showcases a systematic, evidence-based, and community-engaged approach to co-designing a father-inclusive parenting program. The resulting intervention demonstrates strong potential to engage fathers and improve family-wide outcomes for fathers, mothers, and young children. Building on our rigorous design process and promising initial results, further implementation and evaluation research is needed to assess program feasibility, acceptability, and effectiveness.

1. Introduction

The importance of engaging men has been increasingly recognized globally and across various sectors, including sexual and reproductive health (Ruane-McAteer et al., 2019), maternal and newborn health (Comrie-Thomson et al., 2021), nutrition (Mahesh et al., 2018), and parenting (Jeong et al., 2023a). Although fathers have traditionally been viewed as financial providers, they are becoming more involved in family caregiving and engaging in a broader range of interactive forms of care (Jeong et al., 2021). Studies across low- and middle-income countries (LMICs) have characterized father involvement with young

children as a multidimensional construct, encompassing domains such as paternal stimulation practices, emotional support for their partners, and active participation in household chores (Jeong et al., 2024a; Saaka et al., 2023).

A robust body of evidence underscores how father involvement benefits the health, wellbeing, and development of their children, partners, and families in diverse ways. Fathers’ direct engagement with their young children in responsive caregiving, early stimulation, and other childcare activities supports early childhood development (ECD), including children’s cognitive, socioemotional, language, motor development (Jeong et al., 2016; Diniz et al., 2021). Beyond direct caregiving,

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fathers can also support ECD indirectly through their relationships with their partners and co-parenting dynamics that shape the broader caregiving environment of young children (Feinberg and Kan, 2008; McCann et al., 2023). Fathers' sharing of caregiving roles with their partners also has benefits on gender equity and women's empowerment outcomes, such as maternal self-efficacy, social support, and decision-making power (Doyle et al., 2014). Father involvement not only strengthens family relationships and supports child development but also benefits fathers themselves by enhancing their sense of purpose, emotional wellbeing, and mental health (Bamishigbin et al., 2020; Baldwin et al., 2018). Importantly, fathers' mental health, including depression and stress, affects parenting behaviors, couples' relationships, and overall family wellbeing, which in turn also influences ECD (Jeong et al., 2024b; Gutierrez-Galve et al., 2015).

Despite robust observational evidence highlighting these interconnected ways fathers can influence ECD from a family systems perspective (i.e., via fathers' parenting, couples' relationships, and mental health), few interventions have actively engaged fathers or comprehensively addressed these multiple dimensions of fatherhood, especially in sub-Saharan Africa (Jeong et al., 2023b). The Engaging Fathers for Effective Child Nutrition and Development in Tanzania (EFFECTS) trial tested a bundled nutrition and parenting intervention that included mothers and fathers. While the intervention improved fathers' stimulation and some aspects of couples' relationships, it had no impact on fathers' depressive symptoms, responsive caregiving, or ECD outcomes, above and beyond the intervention with mothers only (Jeong et al., 2024c). One possible explanation for these limited effects is that the curriculum covered an extensive range of topics, and individual sessions were not sufficiently pilot tested or tailored to optimize program content and delivery with fathers specifically (Jeong et al., 2024c; Panter-Brick et al., 2014). Another notable example of a father-inclusive intervention is the Bandedereho program in Rwanda, which aimed to strengthen couples' relationships and fathers' involvement in reproductive and maternal health (Doyle et al., 2018). While this program successfully reduced intimate partner violence and harsh child discipline and improved fathers' participation in household tasks and shared decision making, it did not directly include program content or evaluate fathers' parenting practices, mental wellbeing, or ECD. Together, these studies highlight the potential of engaging fathers in interventions while revealing critical evidence gaps, particularly the need for integrated approaches that address multiple aspects of fatherhood to promote ECD.

To date, a major methodological shortcoming in the evidence on fatherhood programs, both in sub-Saharan Africa and globally, is the lack of clarity and inclusivity in engaging fathers during the intervention design process (Panter-Brick et al., 2014). Most parenting programs were originally developed and intended for mothers, with fathers recruited as secondary caregivers rather than co-beneficiaries (Jeong et al., 2023b). This approach often fails to incorporate fathers' perspectives, caregiving priorities, and preferences from the outset, thereby limiting program relevance and impact. Without tailoring interventions to fathers' specific needs and addressing restrictive gender norms around caregiving, such programs are further limited and miss opportunities to reshape social expectations and promote more equitable father involvement (Levy et al., 2020). Additionally, interventions often overlook practical barriers fathers face, such as time constraints due to work obligations, lack of targeted recruitment strategies, and limited flexibility in session scheduling, all of which contribute to low participation and retention (Gonzalez et al., 2023; Frank et al., 2015). Without a gender-responsive approach that accommodates fathers' lived realities, programs struggle to achieve meaningful engagement and sustainable change in family caregiving dynamics.

Another critical issue is the lack of methodological documentation regarding the development and adaptation of father-inclusive interventions. Few studies describe the processes and approaches tested for engaging fathers or tailoring program components to be gender-responsive and culturally relevant (Wight et al., 2022; Giusto and

Ayuku, 2022). While various theoretical frameworks for intervention development exist, they are rarely applied to parenting programs (Baker-Henningham, 2018), let alone fatherhood programs, making it difficult to assess what design procedures work best and why. This lack of systematic documentation on intervention development methods and experiences hinders the field's ability to refine best practices and build on prior lessons to inform future interventions (Wight et al., 2016). Addressing these gaps is essential for developing more inclusive, contextually relevant, and impactful parenting programs especially with fathers.

This study details the systematic, evidence-based, and theory-driven process we used to co-design a fatherhood intervention in Mwanza, Tanzania named *Familia Bora* (or "good family" in Kiswahili). *Familia Bora* is a multicomponent, father-inclusive parenting program for couples with young children, designed to improve caregiving practices among both fathers and mothers, strengthen couples' relationships, promote more equitable gender roles within the household, and support mental health and stress management for both parents. By engaging both mothers and fathers as active caregivers and co-parents, the program seeks to shift gender norms, enhance family functioning, and create a more supportive environment for ECD.

We used a multi-phase process to design our intervention by combining a rigorous evidence review, collaborative co-design through a Global North-South research-practice partnership, and iterative pre-testing of all sessions with fathers and mothers to refine content and program delivery strategies. We identified the need for a new intervention to address gaps in existing programs – particularly the limited integration of interconnected fatherhood domains such as parenting, couples' relationships, and parental mental health – as well as the lack of programs focused on fathers of young children with the ultimate goal of improving ECD outcomes. Central to this effort was ensuring cultural relevance for the Mwanza context through a meaningful partnership with local experts and a respected community-based organization. By detailing our methodological process and co-design approach, this paper aims to inform the design of father-inclusive parenting programs, enhance their feasibility, acceptability, and impact, and offer practical insights to guide the further development and evaluation of similar interventions in LMICs.

2. Methods

2.1. Participants and study setting

This research targeted fathers and mothers who were in a partnered relationship and were the primary male and female caregivers of a child under two years of age. The study was conducted in the peri-urban Ilemela district of Mwanza region, located in northwestern Tanzania. In Mwanza, traditional family structures are predominantly characterized by heterosexual monogamous relationships, with most fathers living in the same household as their partner and children (Ministry of Health CD et al., 2023). The primary source of work for men and women in Mwanza is small-scale agriculture, livestock-keeping, fishing, selling sardines, and mining (Ministry of Health CD et al., 2023). Overall, 87% of men and 67% of women in Mwanza region were employed in paid work in the past 12 months (Ministry of Health CD et al., 2023). Tanzania is a patriarchal society where traditional gender norms often assign men the role of primary breadwinners and women the responsibility for childcare and household activities (Alsager et al., 2024). Early child development is a critical concern in Mwanza, where an estimated 52% of preschool-aged children are developmentally "off-track" and nearly one-third (28%) of children under-5 are stunted (Ministry of Health CD et al., 2023).

2.2. Theoretical frameworks

Our intervention design process was guided by multiple established

frameworks to ensure a systematic and contextually-grounded approach. We integrated recommended steps from the Medical Research Council (MRC) framework for complex interventions, Intervention Mapping, the Behavior Change Wheel (BCW) with the COM-B model (Capability, Opportunity, Motivation for Behavior to change), and the Six Steps in Quality Intervention Development (6SQuID). These frameworks were reviewed and synthesized prior to implementation to create a practical, six-step process tailored to our study goals, timeline, and setting.

Each framework contributed distinct but complementary perspectives. The MRC framework provided a high-level, phased structure that emphasized grounding interventions in theory and preparing for implementation and evaluation from the outset (Craig et al., 2008). Intervention Mapping focused our attention on identifying behavioral determinants underlying our key targeted outcomes and selecting appropriate behavior change techniques to facilitate change (Bartholomew et al., 2016). The BCW and COM-B model helped us review our formative research results and break down behavioral determinants in terms of capability, opportunity, and motivation, ensuring that our intervention targeted the most relevant mechanisms for sustainable change (Michie et al., 2011). Finally, 6SQuID provided an iterative process and roadmap for intervention development, from identifying key causal factors, defining mechanisms of change, and refining the intervention on a small scale through pilot testing and adaptation before full implementation (Wight et al., 2016).

Rather than adopting any single framework in full, we integrated the most relevant and actionable components from multiple frameworks that best aligned with our goals – an approach consistent with strategies used by other intervention development teams (Highfield et al., 2018; Hendry et al., 2025). In areas where frameworks diverged or included elements not well-suited for our applied objectives, we adapted or streamlined components to create a process that balanced feasibility, local relevance, and methodological. For example, while the MRC framework provides a useful high-level structure, it has limited operational guidance for the design phase, which we supplemented by drawing on more detailed steps outlined in 6SQuID and Intervention Mapping. Conversely, while Intervention Mapping offers extensive planning processes (e.g., matrices of change objectives, strategies for policy-level engagement), we simplified these more resource-intensive components to fit the scope and goals of our pilot community-based program.

We also applied principles from implementation science, recognizing that effective intervention design requires attention both content and contextual and delivery-related factors (Laurenzi et al., 2024; Francis and Baker-Henningham, 2020; Brown et al., 2020). During pretesting, we gathered participant feedback on session content and activities (e.g., feasibility, acceptability, usefulness), as well as program implementation aspects (e.g., dosage, location, delivery cadre, gender dynamics), which we discuss further below. These insights were integrated from the outset to enhance the eventual feasibility, acceptability, impact, and scalability of the intervention.

Our intervention design process was further anchored in principles of co-design. Co-design is a collaborative approach in which researchers and stakeholders (e.g., implementers, practitioners, intended users) work together to design and refine solutions through iterative testing, shared decision-making, and mutual learning (Vargas et al., 2022). This process ensures that interventions are not only evidence-based but also grounded in the values, priorities, and everyday contexts of the communities they aim to serve (Gibbs et al., 2025). Co-design also shaped our methodological approach by emphasizing the importance of centering the perspectives of both mothers and fathers.

Ultimately, we followed a six-step intervention development process spanning from 2022 to 2024: (1) a systematic review to identify existing father-inclusive parenting interventions, (2) formative research to understand key behavioral drivers and contextual factors surrounding fatherhood, (3) co-design of the initial intervention, (4) rapid pretesting

and iterative refinement, (5) finalization of the intervention curriculum and implementation model, and (6) producing a theory of change to guide the next steps for evaluation and testing (Fig. 1). By integrating elements from multiple frameworks and tailoring them to our context, we aimed to create an intervention that was both evidence-based and locally responsive.

2.3. Study team

The intervention development process was a collaborative effort between Emory University and the Tanzania Home Economics Organization (TAHEA-Mwanza). The research team at Emory conducted the systematic review (Step 1) and designed the qualitative formative research study (Step 2), while TAHEA carried out the formative study in Mwanza. Both teams jointly analyzed findings. Emory and TAHEA co-developed initial drafts of the intervention sessions (Step 3), after which TAHEA pretested sessions in the field and conducted post-session focus group discussions to gather participant feedback (Step 4). Revisions to the intervention sessions were made collaboratively between TAHEA and Emory based on observations, facilitator experiences, and qualitative analysis of focus group discussion data (Step 5). To maintain alignment and coordination, Emory and TAHEA met weekly via Zoom, and the Emory team traveled quarterly to Tanzania to plan, observe field pilot sessions, and work together to revise and further conduct further pretesting of the sessions. Additionally, four team members from TAHEA traveled to Atlanta, USA for 8 days to work with the Emory team in finalizing the intervention curriculum and structure.

TAHEA's longstanding relationship with local communities in Mwanza was instrumental in not only ensuring that the intervention was contextually relevant but also building strong and collaborative relationships with families and stakeholders within Mwanza communities throughout the intervention development process. The iterative, community-engaged approach was rooted in an equitable partnership between Emory University and TAHEA, with each bringing complementary expertise and shared decision-making to shape the intervention throughout its development.

2.4. Ethics approval

For the study phases involving human participants, we obtained ethical approval from the Institutional Review Boards at Harvard University (for Step 2), Emory University (for Step 4), and the National Health Research Ethics Committee at the National Institute of Medical Research, Tanzania (for Steps 2 and 4). Written informed consent was obtained separately for each study phase, and participation in all data collection activities was entirely voluntary. During pretesting, participants were invited to experience a session as part of the intervention development process. They could attend the session without being required to join a focus group discussion, though all attendees ultimately chose to participate. After the session, participants were offered a short break with refreshments. During this time, those interested in participating in a focus group discussion were invited to do so and provided written informed consent prior to participation. Participants were not financially compensated, but refreshments were offered as a token of appreciation.

2.5. Step 1: Systematic review

In early 2022, we conducted two systematic reviews on caregiving interventions that included fathers to promote nurturing care for young children under 5 years of age in LMICs. These reviews focused on 1) implementation characteristics and 2) effectiveness of father-inclusive interventions. We searched electronic databases for peer-reviewed articles describing social and behavioral change interventions in LMICs that directly included male caregivers and focused on improving knowledge, attitudes, and practices related to nurturing care for young

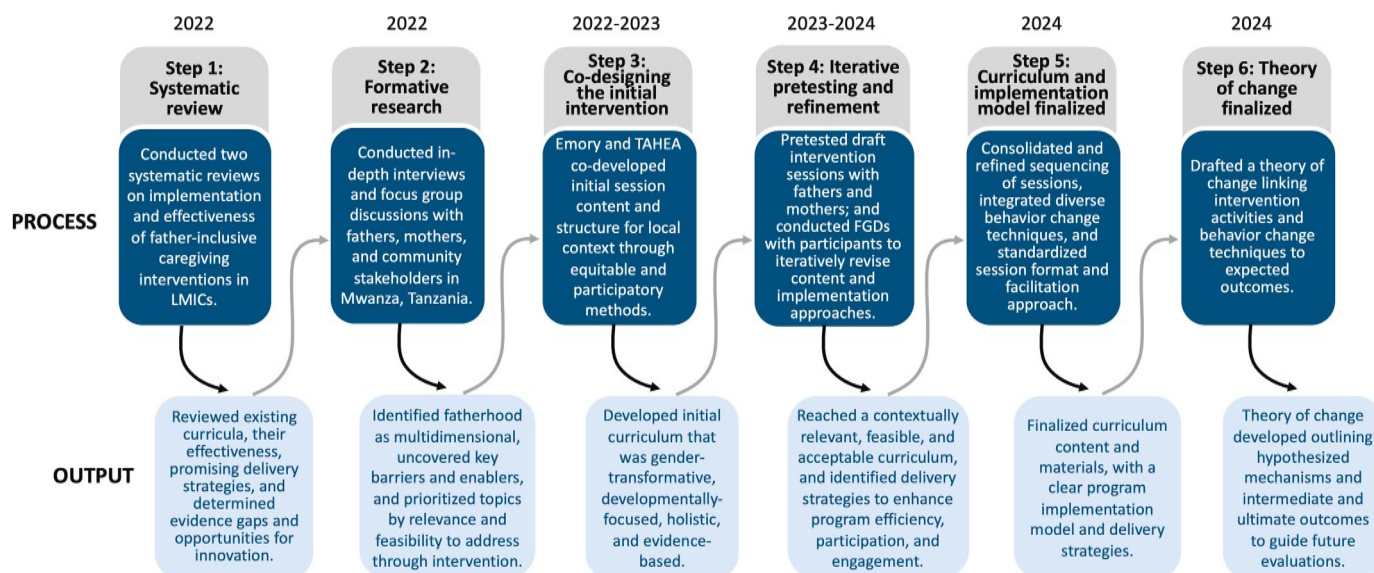


Fig. 1. Intervention development process for *Familia Bora* and outputs at each step.

children (i.e., health, nutrition, responsive care, early learning, safety and security). Across these reviews, we extracted data about program model, intervention content, delivery strategies, implementation barriers and enablers, outcome measures, and program impact results. Full details on the review protocol, including search strategy, inclusion criteria, and data synthesis approach are reported elsewhere (Jeong et al., 2023a, 2023b).

2.6. Step 2: Formative research

In summer 2022, we (Emory and TAHEA) jointly conducted a descriptive phenomenological qualitative formative research study to explore the lived experiences and meanings surrounding fatherhood in Mwanza, Tanzania (Jeong et al., 2023c). Our study sample focused on parents with a child under 2 years of age who were currently partnered and living together with the child in four selected communities in the peri-urban areas of Ilemela district, Mwanza city, Tanzania. We carried out in-depth interviews and focus group discussions with fathers and mothers and also conducted in-depth interviews with village leaders and community health workers. Separate topic guides were developed for fathers, mothers, and other stakeholders to tailor the questions to each group's experiences and perspectives on fatherhood. For our analysis, we drew on various frameworks, including the Behavior Change Wheel and the COM-B model, to investigate fatherhood-related behavior change. These frameworks guided us towards identifying key barriers and facilitators to fathering for ensuring that our intervention eventually targeted the most relevant drivers of behavior change.

2.7. Step 3: Co-designing the initial intervention

From November 2022 to June 2023, Emory and TAHEA engaged in an iterative co-design process to develop an initial draft version of our fatherhood intervention curriculum, structure, and delivery strategy. Our goal was to address the multidimensional nature of fatherhood—encompassing fathers' parenting, couples' relationships, and mental health—while ensuring feasibility, acceptability, and cultural relevance in Mwanza, Tanzania.

2.7.1. Principles of co-design partnership

Our approach to co-design was guided by relevant prior studies and principles from community-based participatory research, which emphasize equitable engagement, mutual learning, power-sharing, and

shared project ownership across partners (Vargas et al., 2022; Greenhalgh et al., 2016; Benz et al., 2024). From the outset, Emory and TAHEA collaborated in shaping program objectives, selecting and adapting content, determining cultural relevance, and planning delivery strategies. We supported power-sharing through regular and open dialogues, flexibility in content development, and joint decision-making at every stage. Throughout the process, TAHEA and Emory had weekly calls and quarterly in-person meetings in Tanzania. During pre-testing, facilitators were encouraged to provide open and critical feedback, drawing on their direct experience delivering the sessions and deep familiarity with the local context. Their inputs were instrumental in shaping content adaptations to enhance cultural relevance, delivery flow, and caregiver engagement.

2.7.2. Identifying priorities and mapping curriculum content

The co-design process began with identifying and prioritizing target behaviors based on insights from our systematic review and formative research. Emory and TAHEA collaboratively mapped ideal targetable behaviors across the various domains of fatherhood through interactive discussions. Following this, we reviewed curricula from our systematic review to extract and adapt relevant content and activities aligned with these priority topics while also identifying gaps that required new content development. For example, we realized the need to develop new content on fathers' responsive caregiving, mental health, and stress management, as these topics were underrepresented in existing packages and not tailored specifically to fathers of young children. We additionally grouped content and activities by thematic area; for instance, fathers' emotion regulation, alcohol reduction, and healthy coping strategies were categorized under mental health. We applied a family systems lens to map how targeted behaviors and session content could influence not only fathers, but also their partners and children. Once priority themes were established, we drafted each session by adapting existing materials and creating new original content, as needed.

2.7.3. Integration of behavior change techniques

In addition to adapting developing the curriculum content, we identified a range of behavior change techniques to incorporate and test within our sessions, drawing on findings from our systematic review of implementation characteristics of father-inclusive interventions (Jeong et al., 2023b). These include two-way education (e.g., reflective dialogues), performance-based strategies (e.g., demonstrations, role play,

homework) and use of media (e.g., video, print media, stories). In every session, we systematically considered the multilevel barriers and facilitators to behavior change for fathers as identified in our formative research. Particular attention was paid to cross-cutting constraints such as restrictive gender norms.

2.7.4. Translation and cultural refinement

Once the English drafts were finalized, TAHEA led a meticulous translation process into Swahili to ensure linguistic and cultural accuracy. Multiple rounds of review and iterative refinement were collaboratively conducted by both Emory and TAHEA to ensure each session was evidence-based, contextually appropriate, and aligned with the lived realities of fathers in Mwanza.

2.8. Step 4: Rapid iterative pretesting and refinement

From June 2023 to May 2024, we conducted a structured, multi-phase pretesting process to refine our intervention curriculum. This step was guided by the 6SQuID and Intervention Mapping frameworks, which emphasize small-scale testing and iterative refinement as essential components of high-quality intervention development. Pretesting took place in 13 peri-urban communities across Ilemela District in neighboring but distinct communities to those involved in the formative research. Each individual session was tested in a different community with a new group of participants to gather rapid feedback, implement revisions, and then retest the updated session with another group of participants to assess improvements in clarity, engagement, and relevance. Sessions were held in centrally located community venues (e.g., ECD centers, local leadership offices) identified in collaboration with village leaders.

2.8.1. Participant recruitment and sample

Fathers and mothers were recruited via convenience sampling with assistance from village leaders, using the same inclusion criteria as our formative research: primary male or female caregiver of a child under two years and who was in a partnered relationship. Any parent from an eligible household – fathers, mothers, or both – was welcome to attend a session. For certain sessions focused on ECD and responsive caregiving, caregivers were encouraged to also bring their child under two to participate in the parent-child activities.

We aimed to recruit approximately 10–15 participants per pretest session with a balanced representation of mothers and fathers. Although some caregivers may have attended more than one session, our design intentionally prioritized testing with different participants and communities in each cycle, rather than retaining a fixed cohort of participants throughout the pretesting process. We used a basic attendance sheet to record general group composition (e.g., number, gender, participants' highest education).

2.8.2. Session facilitators

Each pretest cycle was facilitated by two trained TAHEA staff – one male and one female – to ensure gender balance and inclusive engagement. One facilitator led the session while the other provided support and took observational notes to inform iterative refinement of the content and delivery, and they regularly switched with each new test cycle. The facilitators were both Tanzanian, bilingual in Kiswahili and English, were parents themselves of young children aged 0–3 years, had prior experience facilitating community-based group parenting programs in Mwanza, and had professional backgrounds in ECD, parenting, nutrition, and gender. Because the facilitators were directly involved in co-designing the curriculum, they were deeply familiar with the session content and well-prepared to lead the pretesting sessions. This approach also supported standardization by engaging a small, highly qualified team. Ahead of each session, TAHEA and Emory team members held joint planning and training meetings to review session content, clarify objectives, and align on facilitation strategies. These collaborative run-

throughs helped refine the sessions and strengthen the consistency and quality of delivery.

2.8.3. Focus group discussions and feedback

After delivering the full draft session content, the facilitator and notetaker switched roles to lead a brief (approximately 30 min) qualitative focus group discussion with participants to gather feedback and conclude each pretest cycle. Using a semi-structured topic guide, they collected input about program content, such as participants' comprehension, perceived acceptability of lessons, intentions to apply new knowledge, and suggestions for improving relevance especially for fathers. The topic guide also explored participants' preferences on program design and delivery, including perceived barriers and facilitators to participation, preferred session timing, group composition (gender separated or mixed groups), and facilitator characteristics. These questions were informed by the COM-B model and approaches drawn from prior intervention development studies (Laurenzi et al., 2024; Francis and Baker-Henningham, 2020; Gibbs et al., 2025).

2.8.4. Data analysis

The entire pretesting activity, including the delivery of the session itself and the focus group discussion afterwards, was audio-recorded. An independent team of research assistants transcribed and translated these recordings within a few days for further analysis. For this step, we used a hybrid approach to analysis combining both deductive and inductive coding strategies (Fereday and Muir-Cochrane, 2006). The initial codebook was developed a priori based on our research objectives, session topics, and focus group discussion guide (e.g., content relevance, comprehension, delivery preferences). As transcripts were reviewed, the codebook was iteratively refined to incorporate emergent themes raised by participants, especially where insights extended beyond predefined categories.

Analysis of program design and delivery-related feedback (e.g., preferred session times, facilitator roles, group format) followed a largely deductive structure, grounded in the a priori questions embedded in our topic guides and informed by existing implementation science literature (Francis and Baker-Henningham, 2020; Siu et al., 2017). In contrast, analysis of how participants responded to session content – what they learned, what was meaningful, and how they intended to apply it – was more inductive, shaped by constructs from COM-B and implementation science domains such as feasibility, acceptability, and appropriateness (Klaic et al., 2022; Maltby et al., 2023). This combined approach allowed us to integrate both theoretically grounded and contextually emergent feedback.

2.8.5. Initial refinement to session content and structure

After each pretest cycle, the Emory and TAHEA teams held debrief meetings – typically in person that same day or via Zoom when Emory team members were remote – to make rapid revisions. These discussions drew on facilitator reflections, notes, and field observations. Although the principal investigator is not a native Kiswahili speaker, his intermediate proficiency facilitated engagement during field observations through observing and providing feedback on session pacing, facilitation quality, participant engagement, and the clarity of discussion questions and responses shared. These notes informed revisions such as simplifying dense explanations, clarifying facilitator guidance, and adjusting curriculum language as needed to encourage active participation particularly from fathers alongside mothers.

Once transcripts from each pretest session were available, the team collectively reviewed the dialogue between facilitators and participants to guide a further round of edits. Revisions focused on clarifying content, improving session flow, simplifying dense explanations, and improving facilitator instructions. For example, we reduced the number of stories per session to maintain engagement and added clearer guidance for using play materials to ensure hands-on interaction. Unclear discussion questions were refined to better elicit meaningful responses. We

continuously improved the translation quality of the curriculum by comparing Swahili dialogue from the audio-recordings with the written curriculum to identify areas where facilitators frequently improvised or deviated from the session guide and improve translation quality, clarity, and consistency.

In addition to content-specific revisions, as a team, we also made structural edits to improve the formatting and layout of the facilitator guide to enhance ease of delivery. Overall and throughout this process, we prioritized shared ownership and equitable decision-making. We also rotated responsibility for leading session revisions and conducted all debrief meetings jointly across both teams, using consensus-based decision-making to guide revisions.

2.8.6. Integration of participant feedback

Beyond team observations and transcript reviews, we systematically analyzed participant feedback to ensure the intervention reflected their perspectives and needs. After each pretest cycle, we reviewed and coded the focus group discussion transcripts using Atlas.ti, synthesized key themes, and updated the curriculum accordingly. We repeated this iterative process – testing in a new community, conducting focus group discussions, reviewing the data, and making further refinements – until we reached a version that community members were satisfied with.

Overall, this approach ensured the intervention was both theoretically grounded and responsive to families' experiences and preferences, thereby enhancing its potential to support behavior change. We explored what participants found engaging, what they learned, how they planned to apply new knowledge, and whether the content resonated with their realities and challenged gender norms. Focus group discussions also allowed us to capture participants' preferences on program design and implementation elements – such as session length, meeting locations, and facilitator characteristics – to guide key programmatic decisions.

2.9. Step 5: Streamlined curriculum content and determined appropriate sequencing of sessions

Once the individual sessions and broader implementation strategy were finalized, we focused on assembling the overall curriculum and intervention package. The curriculum was strategically consolidated to ensure main messages were covered while balancing the number of sessions for feasibility. Conceptually related sessions were merged, and redundant content was streamlined. We held collaborative discussions to strategically sequence sessions in a way that would optimize participant learning, including decisions about which concepts to introduce early in the program versus later. We also thought critically about how topics should be grouped together to build upon one-another while also spacing out repeated topics to scaffold learning and promote recall. This process of refining, packaging, and sequencing sessions was a collaborative effort between Emory and TAHEA, integrating community insights, practical implementation considerations, and evidence-based frameworks. The curriculum also underwent an extensive process of Swahili translation quality checks before finalization and printing for field use.

2.10. Step 6: Theory of change

Through our systematic review, formative research, and iterative pretesting, we co-developed a program Theory of Change (ToC) to depict how our intervention is expected to lead to improvements in a range of outcomes in the short- and longer-term and across multiple individuals within the family system. In line with recommendations from both the MRC framework and 6SQuID model, we developed the ToC as part of our design process to ensure our intervention was grounded in a clearly defined causal pathway. This helped ensure alignment between curriculum objectives and intended outcomes and provided a roadmap to guide future implementation and evaluation research.

3. Results

3.1. Step 1: Systematic review

Through our systematic literature review we identified 33 interventions in LMICs. The majority of interventions focused on addressing maternal and child nutrition (79%) and health (70%), with relatively few about parenting (36%) or addressing gender norms (18%) (Jeong et al., 2023b). Most interventions invited fathers to participate alongside their female partners. Community-based peer-groups were the most common delivery model. Most interventions used the same program structure for fathers and mothers, with only a small number (9%) adapting the delivery model specifically for fathers based on formative research or pretesting to better tailor the approach to men. The behavior change techniques used in these interventions were largely limited to information sharing, but rarely incorporated strategies such as demonstrations, problem solving, behavioral practice during the sessions, inclusion of children during sessions, pointing to potential opportunities for improvement in future program designs. Finally, most evaluations of father-inclusive programs measured maternal outcomes (82%), and fewer assessed the effectiveness of such programs on paternal (58%), couple's relationship (48%) and child-level outcomes (45%) (Jeong et al., 2023a). More details about the findings from our systematic review – including the specific interventions reviewed and their characteristics – can be found elsewhere (Jeong et al., 2023a, 2023b). Overall, our review identified existing interventions that could inform the design of a gender-transformative fatherhood program while also highlighting the urgent need for original research to design and test new innovations, address current gaps in programming, and strengthen the evidence base.

3.2. Step 2: Formative research

Our formative research findings revealed that fatherhood in the Tanzanian context is multidimensional, encompassing aspects of fathers' parenting, couples' relationships, and fathers' mental health (Jeong et al., 2023c). These three dimensions were deeply interconnected and influenced ECD both directly and indirectly. We also identified significant gender differences in the parenting roles and experiences of mothers and fathers, with respondents largely describing fathers as having limited involvement in parenting, childcare, and household activities and instead viewing these activities as maternal responsibilities. A range of factors were found to shape fatherhood, including poverty, the quality of couples' relationships, and restrictive gender norms. These insights highlighted the complex interplay of factors that must be addressed to effectively support fathering and improve family dynamics. Additional details about the study design and methodology for this formative research, along with other secondary analyses of these data, have been published elsewhere (McCann et al., 2023; Jeong et al., 2023c, 2024b; Alsager et al., 2024; Bhojani et al., 2024).

After unpacking the various aspects of fatherhood and their associated barriers and facilitators, we mapped specific topics based on their current relevance among fathers (x-axis) and the short-term feasibility of addressing them through a social and behavior change intervention in the local context (y-axis) to guide intervention priorities (Fig. 2). This diagram highlights topics that are both highly prevalent and feasible to change, as well as those that may require more sustained or comprehensive strategies to address. For example, partner support emerged as both highly relevant and addressable, while others such as fathers' engagement in household chores and gender equitable attitudes was less commonly practiced or expressed and faced greater barriers, signaling the need for more layered intervention strategies. Overall, our formative research contextualized key aspects of fatherhood in Mwanza and highlighted the potential for father-inclusive, gender-transformative parenting interventions that address interrelated themes, risk factors, and behaviors to support fathers, partners, and children in this setting.

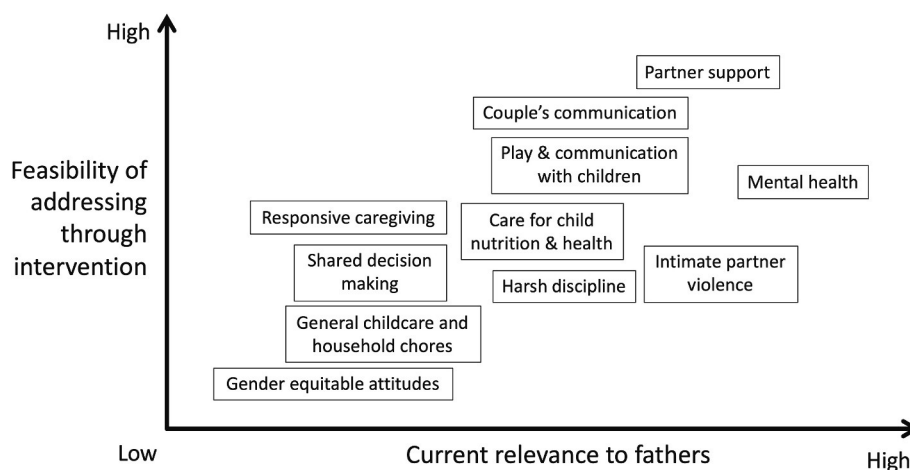


Fig. 2. Mapping formative research findings on aspects of fatherhood by relevance and feasibility to address through intervention.

3.3. Step 3: Co-designing initial intervention

3.3.1. Integrating findings from steps 1 and 2

To guide the co-design process, we synthesized findings from the systematic review and formative research into a unified framework of three interconnected domains of fatherhood: (1) parenting and father-child relationships, (2) couples' relationships and co-parenting, and (3) fathers' mental health and wellbeing. These domains were grounded in our qualitative findings which underscored their importance for ECD, and they responded to critical gaps in the global evidence, where few interventions have addressed all three areas holistically.

Using this framework, we mapped and prioritized specific session topics and behavior change objectives. For instance, while our systematic review revealed limited use of participatory behavior change techniques, our formative research showed that fathers favored active, visual, and discussion-based formats. Similarly, although most reviewed programs applied a standard delivery model across genders, our data highlighted specific logistical and sociocultural considerations – such as session timing, household power dynamics, and gender norms – affecting program feasibility with fathers. This combined evidence formed the foundation for curriculum design.

3.3.2. Developing the draft curriculum

Building on these findings from our systematic review and formative research, our team collaboratively prioritized key topics, adapted and developed content, and planned delivery strategies for our intervention. The co-design process resulted in a culturally grounded draft curriculum that comprehensively addressed these multiple components of fatherhood in terms of parenting, couples' relationships, parental mental health, and ECD.

As we compiled and structured the initial curriculum, we emphasized three overarching principles. First, we applied a gender-transformative lens throughout the content. Given our formative research results on restrictive gender norms as a cross-cutting barrier affecting various aspects of father engagement, we included discussion questions and activities that encouraged participants to critically reflect on the sources and consequences of harmful gender norms and explore how parents could challenge these norms within their families and communities.

Second, we integrated a developmental perspective across all sessions. While previous fatherhood interventions have focused on increasing paternal involvement in childcare activities, our approach further emphasized the importance of quality father-child interactions, such as paternal emotional warmth and attachment security, and enhancing responsive caregiving and opportunities for early learning. This developmental lens extended beyond parenting sessions and was

integrated into other topics as well, including intimate partner violence, couples' communication, co-parenting, and parental mental health, to underscore the connections with children's cognitive and socioemotional development. For example, in sessions about prevention of intimate partner violence, we facilitated discussion on how household family conflict impacts children's emotional security and wellbeing and how positive partner communication can foster a nurturing environment for children's development. Our sessions on mental health addressed the effects of caregiver stress and coping strategies on parent-child interactions.

Third, we adopted a holistic, family-centered approach by designing content that made explicit links between parenting behaviors, partner relationships, caregiver mental well-being, and gender norms to frame fatherhood as a multidimensional role. For example, our session on harsh discipline extended beyond child-directed violence to include discussions on intimate partner violence, masculinity, and power dynamics within families. Similarly, our session on father involvement in child nutrition incorporated content on gender roles, co-parenting, couples' communication, and shared decision-making. This integrated approach encouraged fathers to engage more actively and supportively across all aspects of family life and strengthen relationships with their children, partners, and the broader household system.

We incorporated various behavior change strategies – such as goal setting, commitment-making, and structured opportunities for practice – into the draft sessions to test their feasibility and assess how effectively they supported application of learning for fathers and mothers. For example, to explore ways of fostering responsive caregiving, we developed stories and videos featuring local fathers engaging in positive interactions with their children and assessed whether such these strategies could help make messages more relatable and impactful. By the end of this phase, we co-designed a full draft of the curriculum that was grounded in local realities, informed by global evidence, and ready for field testing and iterative refinement.

3.4. Step 4: Rapid iterative pretesting and refinement

In total, we conducted 54 pretesting cycles across 13 communities with a total of 381 parents (52.8% mothers, 47.2% fathers). Each session was tested in new communities and between two and four times, depending on the extent of revisions needed. On average, 12 parents (approximately 7 mothers and 5 fathers) attended each pretest cycle. Demographic characteristics for the pretesting participants are summarized in Table 1.

3.4.1. Team-led revisions to content and session structure

Emory team members were present in the field to observe 90% of

Table 1
Demographic characteristics of participants involved in pretesting.

Demographic characteristics (N = 381)	Mean (SD) or n (%)
<i>Parental gender</i>	
Male	180 (47.2%)
Female	201 (52.8%)
<i>Father characteristics</i>	
Number of fathers per session	5.4 (3.0)
Father age (years)	39.3 (11.6)
<i>Mother characteristics</i>	
Number of mothers per session	6.5 (5.0)
Mother age (years)	31.3 (8.4)
<i>Marital status</i>	
Married	314 (84%)
Not married	32 (9%)
Single	13 (3.4%)
Divorced/Separated	6 (1.6%)
Widowed	11 (2.9%)
<i>Highest education complete</i>	
Bachelor's degree	2 (1%)
Diploma/Certificate	5 (1%)
Secondary school complete	62 (17%)
Primary school complete	254 (67%)
Some primary school	27 (7%)
No school	28 (7%)

these pretest cycles and document notes alongside TAHEA. After each pretest cycle, we conducted rapid debriefs and jointly reviewed our observational notes to refine session content and flow. Key changes that we made included reducing the number and length of stories per session to improve participant engagement, revising guidance on using play materials to encourage hands-on practice as we noticed these were not being consistently used during early stages of pretesting, and modifying small group activities to begin in gender-separated groups followed by whole-group discussions. We found that this structure encouraged more active participation during sensitive conversations, while still allowing for cross-gender exchange and peer learning. We also aimed to keep each session under 90 min for feasibility purposes.

We identified several practical challenges during pretesting that provided valuable insights for improving feasibility. For example, managing large groups with children present proved difficult, so we chose to explicitly invite children only to selected, child-focused sessions – such as those targeting responsive parent-child interactions. We faced some challenges showing videos that we had filmed portraying ideal behaviors (e.g., responsive parent-child interactions) on tablets outdoors, as large groups struggled to see and hear clearly at all once. To improve engagement, we created shorter videos and divided participants to watch the videos in smaller groups.

3.4.2. Participants' reactions to content

From the review of the focus group discussion transcripts with participants after the session, we found that both mothers and fathers consistently responded positively to the curriculum – supporting its feasibility, acceptability, and the perceived usefulness of all content areas (Supplementary Table 1). Many reported gaining new perspectives on gender-equitable family roles, mental health coping strategies, the importance of men's engagement in nurturing care, and key parenting skills such as responsive caregiving, positive discipline, and healthy communication between partners. Participants also provided valuable insights for refining how key concepts were introduced and explained, improving the cultural relevance of examples, and enhancing the concluding take-home messages and homework assignments of each session to be more practical and actionable for participants.

Participant feedback also highlighted gaps in our initial curriculum and led us to developing a few new sessions to strengthen the program. For example, while discussing the importance of play for children's development, many caregivers expressed that they lacked toys or learning materials at home. In response, we co-designed and pretested a

new session on toy making, where parents learned to craft toys using locally available materials. Financial barriers also emerged as a major source of stress and a constraint to practicing various nurturing care behaviors, such as providing diverse foods or appropriate child health prevention practices. To address this, we developed an economic strengthening session in which couples practiced creating a household budget together that not only aimed to promote intentional savings to support nurturing care activities, but also foster collaboration and shared decision making among parents. Once developed, these new sessions were pretested and refined in the same way as the original curriculum sessions to confirm their feasibility, acceptability, and usefulness among participants.

3.4.3. Participants' preferences for program design and delivery

In addition to the content, participants also provided critical input on program design and delivery strategies. Both mothers and fathers frequently cited opportunity costs as a barrier, particularly limiting fathers' participation in the pretest sessions. Many recommended financial incentives as a means to improve fathers' attendance and engagement in a future program. Although we did not provide financial incentives to parents at any of our pretesting sessions, this feedback emerged consistently across focus group discussions and is informing future planning. Participants also suggested several strategies to support consistent attendance of eventual program participants, including early communication about session timing, involving trusted community figures (e.g., religious leaders, community health workers) as facilitators, and offering flexible scheduling options. Some parents preferred midweek sessions, while others favored weekends, underscoring the importance of adaptable scheduling tailored to community needs.

In terms of session format, the majority of participants preferred the mixed-gender groups, as they believed attending together with men and women and specifically as couples fostered mutual understanding and alignment in co-parenting practices. At the same time, participants also valued opportunities for small group work in gender-specific subgroups, particularly for more sensitive topics, before reconvening for whole-group reflection. A summary of key themes and illustrative quotes related to program design preferences and implementation-related considerations from fathers and mothers is presented in Supplementary Table 2. Overall, these perspectives helped us design an intervention that is not only relevant and feasible for the target population but also implemented in the most optimal way to maximize reach, fidelity, engagement, and sustainability.

3.5. Step 5: Finalize intervention package and overall curriculum and implementation model

Following the iterative co-design and pretesting phases, we finalized the structure, content, and implementation model of the fatherhood intervention curriculum. By the end of this process (June 2024), the curriculum was consolidated into 15 sessions with content strategically merged and streamlined to reduce redundancy while preserving core learning objectives. Table 2 provides an overview of the thematic topics and their learning objectives. Note that themes are organized by topic and may span multiple sessions rather than corresponding directly to each of the 15 sessions.

3.5.1. Streamlined content and sequencing of sessions

To enhance understanding, we streamlined session content and strategically sequenced topics to scaffold key concepts across the curriculum. For example, initially we had three separate sessions relating to intimate partner violence prevention, which we eventually combined into a single, integrated session covering the most relevant learning objectives and activities. Similarly, rather than four stand-alone sessions on responsive caregiving, we integrated responsive caregiving repeatedly into other parenting-related sessions (e.g., play and communication for child development, discipline, child nutrition). Additionally, content

Table 2
Overview of *Familia Bora* session topics and learning objectives.

Session topics	Learning objectives
Fatherhood	<ul style="list-style-type: none"> • Reflect on personal meanings of being a “good father.” • Reflect on the influence that fathers had on them while growing up. • Recognize different profiles of fathers and commit to realizing their personal vision of being a “good father.”
Defining gender attitudes	<ul style="list-style-type: none"> • Understand the differences between sex and gender. • Reflect on how gender norms influence the caregiving expectations and roles of fathers and mothers and how they contribute to gender inequities in childcare and household responsibilities.
Domains and milestones of early childhood development	<ul style="list-style-type: none"> • Understand the four developmental domains of early childhood development. • Appreciate how children’s developmental skills differ according to their age.
Responsive caregiving	<ul style="list-style-type: none"> • Understand the concept of responsive caregiving with young children, including how to observe and respond to children’s cues and needs. • Practice interacting with children in responsive ways.
Understanding child nutrition	<ul style="list-style-type: none"> • Understand the different food groups and the importance of eating a diverse diet. • Reflect on the diversity of foods available in the community and those commonly purchased in households. • Reflect on fathers’ roles for child’s health and nutrition.
Parenting stress, mental health, and alcohol use	<ul style="list-style-type: none"> • Identify the sources of stress for parents. • Reflect on positive ways of managing and coping with stress and the benefits for both parents, partners, and children. • Reflect on the harmful effects of excessive alcohol use.
Defining power in couples’ relationships and types of communication	<ul style="list-style-type: none"> • Understand the differences between positive and negative power • Understand three differences between aggressive, passive, and assertive communication • Practice positive communication between fathers and mothers
Play, communication, and early learning for young children	<ul style="list-style-type: none"> • Understand the importance of playing and communicating with young children to improve early childhood development. • Reflect on specific play and communication activities that parents can do with young children at different ages and stages. • Practice making toys for children using homemade materials. • Practice engaging in play and communicate with young children using toys.
Couples’ conflict and intimate partner violence	<ul style="list-style-type: none"> • Discuss the common sources of conflict between partners and positive ways of resolving conflict within the family. • Understand how conflicts impact children’s wellbeing. • Define violence and identify the four types of violence against women. • Reflect on the consequences of violence on women, children, and families.
Discipline	<ul style="list-style-type: none"> • Recognize the difference between good and bad discipline. • Encourage parents to use good discipline techniques instead of bad discipline techniques.
Economic strengthening	<ul style="list-style-type: none"> • Understand the difference between money spent on needs and wants. • Encourage couples to discuss financial decisions together for the wellbeing of the child and family. • Practice creating a budget and understanding how a budget can be a tool to plan for household expenses.

on power dynamics in relationships was integrated into sessions on couples’ communication and economic strengthening. We sequenced foundational topics, such as defining fatherhood and reflecting on gender roles, at the beginning of the curriculum to prepare participants for the gender-transformative lens applied in later sessions on parenting practices and couples’ relationships. The session on intimate partner violence and non-violent discipline practices were sequenced together to reinforce family violence prevention messages. Other topics such as ECD, responsive caregiving, nutrition, and mental health were given at least two sessions and strategically spaced throughout the curriculum to scaffold concepts and reinforce key messages.

3.5.2. *Standardization of session structure and flow*

The curriculum was designed with a consistent format and standardized structure across all sessions. Sessions began with facilitators recapping key messages from the previous session, followed by participant discussions on their homework experiences. Each session included three to four structured activities, with one focused on counseling key messages and then the other activities reinforcing the key lessons and providing opportunities for deeper reflection, practice, and application of the recommended behaviors or skills (e.g., positive communication with partners, responsive caregiving, and toy-making) through incorporating various interactive behavior change techniques. We also revised the format and graphic design of the session guide using distinct colors and icons to clearly differentiate between what facilitators were supposed to say aloud to participants versus instructions for themselves, after observing that these were sometimes confused or skipped. This change aimed to support more consistent and standardized session delivery.

3.5.3. *Participatory behavior change techniques*

A diverse range of participatory behavior change techniques were used to keep sessions engaging (e.g., such as critical reflection, role-playing, guided practice with feedback). A professional local illustrator developed original images for each session, depicting fathers actively engaged in caregiving and supportive roles for their children and families. Stories and critical reflection were intentionally integrated throughout all sessions, encouraging participants to connect program messages to their own experiences and fostering deeper discussions. Play materials such as playmats and locally-made toys (e.g., rattles, balls, puzzles) were also incorporated into each session to allow parents to practice new parenting techniques with their children and receive feedback from facilitators. Tablets were used to show videos illustrating responsive parent-child interactions, and large laminated flip charts were displayed for visual reinforcement of key concepts.

Each session ended with a structured homework task, carefully designed through formative research and pretesting to ensure feasibility and acceptability for both fathers and mothers in Mwanza. Participants received a one-page handout at the end of each session – featuring a concise summary of key messages, selected images from the flipcharts, and a reminder of the homework assignment – to serve as a take-home reference and support continued practice. At the beginning of the next session, facilitators reviewed key points from the previous session and facilitated a quick discussion where participants shared any new actions they had tried related to the homework.

3.6. *Step 6: Theory of change*

Our final ToC illustrates how *Familia Bora* aims to improve a wide range of outcomes for fathers and mothers, and ultimately impact ECD through incorporating various behavior change strategies across key topic areas that can facilitate multiple mechanisms of change (Fig. 3). Various behavior change techniques were incorporated within and across all sessions, including information sharing, group discussions, contextually relevant media (e.g., images, videos), small-group interactive activities like role plays and worksheets, problem-solving

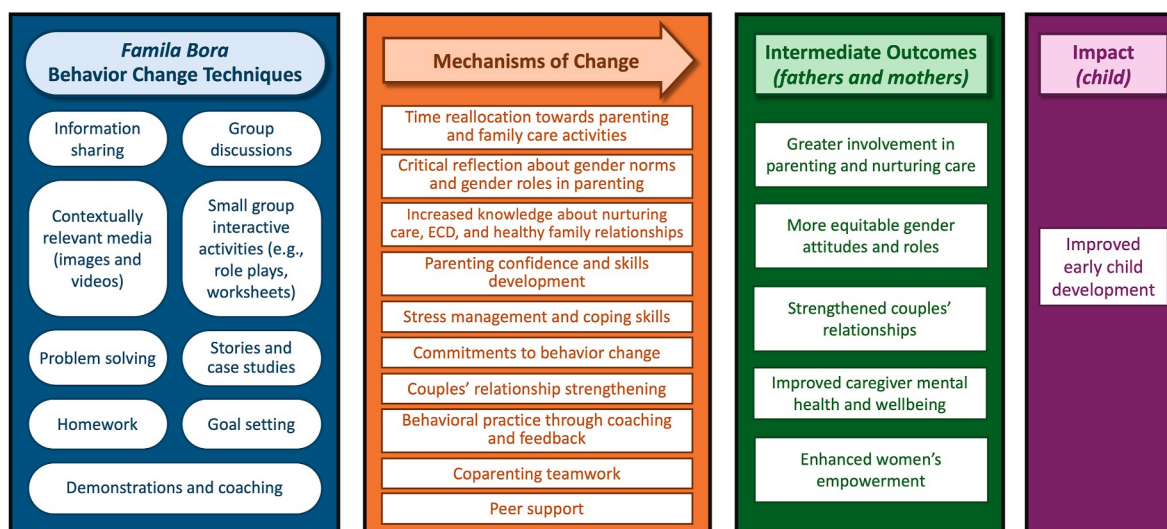


Fig. 3. *Familia Bora* theory of change.

exercises, stories and case studies, homework, goal setting, demonstrations, and coaching to promote engagement and reinforce learning.

3.6.1. Mechanisms of change

These behavior change techniques and the integration of multiple key target areas are hypothesized to drive change via several interconnected mechanisms. Specifically, the intervention aims to support the reallocation of time toward parenting and family care activities, encourages critical reflection about gender norms and parenting roles, and increase knowledge about nurturing care, ECD and healthy couples' relationships. In addition, it strives to build stress management and coping skills and strengthen parenting confidence and caregiving capacity and skills. These mechanisms are further reinforced through participant's commitment to behavior change and behavioral practice through coaching and feedback. Finally, the program aims to promote strengthened couple's relationships and coparenting team work as well as peer support among participants.

3.6.2. Intermediate outcomes and impact

As a result of these various mechanisms of change, our intervention is expected to generate reinforcing cycles of positive change that benefit not only fathers but also their partners and children. We anticipate that improvements in paternal and maternal caregiving knowledge, time allocation to parenting, confidence, practice, and commitments to change will ultimately lead to improved parenting and nurturing care practices. Critical reflection on gender norms and gender roles in parenting will not only foster more equitable gender attitudes but will also support fathers' involvement in parenting, healthier couples' relationships, improved mental health, and improved women's empowerment. We additionally hypothesize that the development of stress management and coping skills, strengthened couples' relationships, and improved coparenting dynamics will work in tandem to support parent's healthy couples' relationships, mental health, and women's empowerment. Specifically, increased male partner support and reduced intimate partner violence are expected to enhance maternal emotional well-being and women's empowerment. Finally, peer support from participating in the parenting groups has the potential to not only promote fathers' and mothers' mental health but also help to reinforce positive behavior changes related to parenting, gender attitudes, couple's relationships, and women's empowerment. In the long term, these cascading effects should enhance the overall family caregiving environment and contribute to improved ECD.

This ToC serves as both a useful conceptual framework internally for our team for clarifying how the intervention is expected to work and a

guide for evaluating its impact in the next phase of research. By clearly defining expected mechanisms and behavioral outcomes and linking them with our program components and strategies, we have established a foundation for testing the efficacy of this intervention. Moving forward, we will refine this ToC based on pilot study implementation experiences and outcomes results, ensuring it remains dynamic, responsive to contextual realities, and adaptable for future implementation.

4. Discussion

This paper describes a multi-staged, community-engaged co-design process that synthesized theory, research, and practice to develop a father-inclusive parenting program named *Familia Bora*. This intervention targets fathers of young children together with their female partners (i.e., couples) through peer groups in their communities with the aim of increasing both maternal and paternal caregiving, couples' relationships, and caregiver mental health, and ultimately improving ECD outcomes in Tanzania. By integrating evidence reviews, formative research, and rapid pretesting with iterative refinements, we demonstrate how these steps were dynamically combined to create a robust and contextually relevant parenting intervention with strong potential to support fathers, mothers, and young children in Tanzania. Our study demonstrates a rigorous, systematic approach to designing a parenting programs, offering a methodological example with broader relevance for developing other interventions across diverse cultural contexts.

Familia Bora is novel by comprehensively addressing a range of interconnected topics to support fathering during early childhood. Our curriculum targets four main pillars – nurturing caregiving, couples' relationships, caregiver mental health, and gender equality – that are vital to transforming family caregiving dynamics and supporting child development. While some previous programs have integrated select elements with fathers, such as combining nurturing care with mental health counseling in Pakistan (Husain et al., 2021) or addressing intimate partner violence through a gender-transformative approach in Rwanda (Doyle et al., 2018), our approach extends this further by targeting all four components jointly, actively engaging both fathers and mothers together, and grounding these pillars from a developmental perspective. Our holistic strategy integrates an ecological approach to supporting fathers within family systems while also challenging restrictive gender norms to enable more sustainable impacts on ECD outcomes.

We also incorporated multiple behavior change techniques within and across our sessions to enhance program effectiveness. All sessions were designed to foster peer learning and reflection, promote social

support, and involved practical exercises to encourage hands-on learning. Children were included to selected sessions, allowing facilitators to demonstrate responsive caregiving techniques and giving parents the opportunity to practice and receive feedback. Through iterative pretesting, we refined these strategies, replacing less effective techniques, adjusting session structures for better engagement, and strengthening links between program components and targeted behaviors. Our approach aligns with studies highlighting how strategically incorporating various behavior change techniques is key to participant engagement, behavioral reinforcement, and improved outcomes (Jeong et al., 2023b; Briscoe and Aboud, 2012; Webb Girard et al., 2020). At the same time, we faced some challenges playing videos (i.e., on responsive caregiving, stimulation practices) during group sessions, as showing them on relatively small tablets in open community spaces made it difficult for all participants to see and hear clearly from a single viewing. We learned that the video component of our intervention needs further refinement and adaptation, which we are currently working on to ensure better feasibility and success.

Through the iterative pretesting and piloting of our sessions, we gained critical insights into the program's feasibility, the preferences of fathers, and which program design features were promising or needed refinement. Feedback from participants revealed that both fathers and mothers largely preferred mixed-gender group sessions, appreciating the opportunity to learn alongside their partners, which fostered mutual understanding and shared goals. This contrasts with several prior studies, where men tended to favor single-sex groups (Wight et al., 2022; Pfitzner et al., 2020). Nevertheless, our mixed-gender sessions had activities where men and women first discussed topics within their own groups to promote comfort and openness before reconvening to share and learn from one another.

Additionally, we learned that involving trusted community members (e.g., village leaders, respected parents themselves) was crucial for sensitizing caregivers, building support, assisting with recruitment, and ensuring follow-up. Thus, it is important to have a period at the program outset dedicated to identifying influential individuals within each community and engaging a diverse group of community members beyond just the facilitator to enable successful implementation (Jeong et al., 2023b). While including children in sessions allowed for real-time practice and direct coaching to promote responsive caregiving behaviors, it posed logistical challenges in larger groups, particularly where we had up to a dozen couples attending and one primary facilitator. In the future, inviting children only to selected sessions that directly focus on child-related areas (e.g., responsive caregiving or early child learning) may help balance participant engagement, ease facilitation, and enhance overall program feasibility and fidelity.

Another important implementation lesson was the challenge of achieving equal participation from fathers and mothers. Work commitments and perceived opportunity costs were the main barriers preventing fathers from attending pretest sessions, despite efforts to balance the number of men and women invited. Both fathers and mothers suggested financial incentives to improve fathers' attendance. These findings align with previous research highlighting similar obstacles to engaging fathers in community-based programs especially in low-resource settings where economic pressures and gender norms prioritize fathers' breadwinning roles (Jeong et al., 2021, 2024d; Stahlschmidt et al., 2013). Targeted strategies, such as financial incentives, were suggested by fathers and could enhance their participation in parenting programs, as seen in other contexts (Gross and Bettencourt, 2019). Overcoming these barriers to attendance and ensuring fathers' full program participation is necessary to maximizing the benefits of father-inclusive programs.

Our intervention has several key strengths. We employed a rigorous, theory-driven, multi-staged, co-development process through a research-practice partnership – integrating evidence reviews, formative research, and iterative field testing and refinement directly with fathers and mothers across multiple communities. Drawing upon evidence-

based frameworks for intervention design, we ensured feasibility in the local context, alignment with participants' needs, and cultural relevance, and thereby enhancing the potential effectiveness of the intervention. This study provides a methodological example for developing complex interventions and more specifically a gender-transformative, couples-based parenting program, but also more broadly reinforces the value of participatory, systematic approaches in designing social and behavior change interventions more broadly in global health (Laurenzi et al., 2024; Brown et al., 2020). Grounded in family systems theory, nurturing care, and gender equity, our intervention holistically addresses parenting within the context of family relationships and gender norms. By engaging fathers alongside mothers as co-beneficiaries, our program challenges restrictive norms, promotes equitable caregiving, and supports women's empowerment, which may facilitate more sustainable, long-term benefits for caregivers, children's development, and communities at-large (Jeong, 2021; Doyle et al., 2023).

Despite its strengths, our study has several limitations worth noting as well. Pretesting relied on convenience samples of fathers and mothers who were available and willing to participate, which may not represent the broader population. Focus group discussions were relatively brief as they were conducted immediately after piloting the sessions to gather immediate feedback while also minimizing participant burden. However, this may have restricted the depth of feedback, as not all participants provided input after every session. Additionally, these focus group discussions were conducted by program staff who had also facilitated the sessions, which may have also influenced participants' responses.

5. Conclusion

This study describes our iterative process of co-designing *Familia Bora*, a father-inclusive parenting intervention grounded in theory, evidence, and community engagement. By engaging both fathers and mothers as co-beneficiaries, addressing the interconnected domains of parenting, couples' relationships, and caregiver mental health, and embedding gender-transformative content and behavior change techniques, our intervention represents a novel, holistic approach with significant potential to improve ECD. Our findings highlight the value of designing interventions through a collaborative and equitable research-practice partnership and close engagement with community members, including fathers themselves, to enhance program feasibility, cultural relevance, and sustainability. With this paper outlining our intervention development process and the promising insights gathered, our next step is to conduct further implementation and evaluation research to assess the fidelity and quality of our intervention. We have recently completed a mixed-methods pilot evaluation to assess changes in father outcomes. Ultimately, we hope our study can provide practical insights and a methodological example that strengthens the development and implementation of father-inclusive gender-transformative parenting interventions to promote nurturing care, gender equity, and ECD across LMICs.

CRediT authorship contribution statement

Joshua Jeong: Writing – review & editing, Writing – original draft, Validation, Supervision, Project administration, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Juliet McCann:** Writing – review & editing, Project administration, Formal analysis, Data curation. **Alina Bhojani:** Writing – review & editing, Formal analysis. **Julieth Joseph:** Writing – review & editing, Validation, Project administration, Investigation, Data curation. **Gabriel Sangarara:** Writing – review & editing, Validation, Project administration, Investigation. **Damas Joachim:** Writing – review & editing, Project administration.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ssmh.2025.100499>.

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