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Men care too: a qualitative study examining women’s perceptions of fathers’ engagement in early childhood development (ECD) during an ECD program for HIV-positive mothers in Malawi

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Men care too: a qualitative study examining women’s perceptions of fathers’ engagement in early childhood development (ECD) during an ECD program for HIV-positive mothers in Malawi

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Abstract

Background
Early childhood development (ECD) interventions improve developmental outcomes and parental support for children affected by HIV. Integration with prevention of mother to child transmission (PMTCT) strategies can benefit both mother and child wellbeing. However, PMTCT and ECD programs rarely target fathers, despite research showing that father involvement improves maternal and child outcomes. More research is needed to understand the acceptability of integrated ECD programs among men.

Methods
We implemented an integrated PMTCT-ECD intervention in six Malawi health facilities for HIV-positive mothers and their infants (ages 1.5-24 months). The intervention provided ECD education and counseling sessions during routine PMTCT visits, following WHO/UNICEF Care for Child Development curriculum. We conducted in-depth interviews with 29 mothers enrolled in the intervention for ≥6 months regarding their perception of father buy-in and engagement in ECD activities and the PMTCT-ECD program. Data were coded using inductive and deductive strategies and analyzed using constant comparison methods in Atlas.ti v1.6.

Results
Almost all mothers reported discussing the PMTCT-ECD intervention and lessons learned with their male partners. Most mothers reported that partners viewed ECD as beneficial and practiced ECD activities at home. Several reported improved partner relationships and increased communication due to the intervention. Nearly all believed their partners saw ECD and ECD sessions as important and valuable to their family. However, most mothers believed fathers would not attend the intervention due to concerns regarding HIV-related stigma at PMTCT centers, time required to attend, and perceptions that the intervention was intended only for women.

Conclusions
We found that fathers were interested in the PMTCT-ECD program and actively practiced ECD behaviors at home. However, fathers did not attend the program and felt uncomfortable visiting PMTCT centers. PMTCT-ECD interventions should consider direct outreach in communities or implementing ECD sessions at facility entry points where men frequent, such as outpatient departments.
Article summary

**Strengths and limitations of this study**

- Reaching fathers in Sub-Saharan Africa with ECD strategies may improve child developmental outcomes, as well as family engagement with health services. This may be particularly true for children affected by HIV, who are more vulnerable to poor health and developmental outcomes.
- Men are rarely included in early childhood development (ECD) programs. Given this gap, we explored the role of an ECD program on men’s interest in, engagement in, and unmet needs regarding ECD activities in Malawi. We focus on the male partners of women living with HIV who were enrolled in an integrated prevention-of-mother-to-child-transmission (PMTCT) and ECD program for a minimum of 6 months.
- The study design and research question were based on strong conceptual framework from existing literature regarding male caregiver involvement in maternal/child health programs and in children’s lives.
- This study is limited by its reliance on mothers’ perceptions of their male partners attitudes and engagement in ECD activities.
**Introduction**

Throughout sub-Saharan Africa, national HIV programs are transitioning from acute services to long-term, chronic care for those infected and affected by HIV. As countries transition, holistic, integrated health services are being prioritized. Prevention of mother-to-child transmission (PMTCT) services can especially benefit from a holistic approach. Across the region approximately 90-95% of HIV positive pregnant women are on antiretroviral therapy (ART) and child infections have dropped significantly – now is the time to promote holistic mother and child services, which can benefit PMTCT retention and mothers’ and children’s general well-being [1,2].

Early Childhood Development (ECD) interventions represent one strategy to promote mothers’ PMTCT retention and mother and child wellbeing. ECD programs are associated with improved physical, psychosocial, and cognitive skills in children [3]. Since HIV-exposed uninfected children are at higher risk of mortality and delayed development than HIV-unexposed children, there is an opportunity to reach some of the most vulnerable children with ECD. An integrated program may also encourage PMTCT retention by improving the PMTCT visit experience for women and offering another motivation for clinic attendance [4]. However, both PMTCT and ECD programs tend to focus on women and fail to engage male partners [5]. The lack of male engagement threatens the potential impact of both PMTCT and ECD strategies. Further, there are increasing calls for increased entry points for men to be engaged with health facilities. Excluding men from ECD programs misses key opportunities to engage men as caregivers, and eventually as clients.

When men attend PMTCT programs, there is decreased risk of infant HIV infection and mortality [6]. Male involvement in PMTCT during pregnancy and after birth has been linked to improved maternal health behaviors, increased use of maternal and newborn health services, and is predictive of long-term involvement of fathers in their children’s lives [7]. A review of 18 studies assessing male involvement in reproductive health interventions in sub-Saharan Africa found that male involvement was consistently associated with improved reproductive health outcomes and greater spousal communication [8]. With regard to ECD and child wellbeing, increased male caregiver involvement is associated with improved cognitive development, increased social responsiveness and greater school achievement among children [9,10].

However, many obstacles limit male caregiver involvement in both PMTCT and ECD programs. Antenatal care (ANC) services and related PMTCT programs are often not designed to include men [5]. Healthcare providers, who are accustomed to speaking to women, report feeling uncomfortable talking about PMTCT or ECD with men [10]. This likely contributes to men’s perception of PMTCT and under-five clinics as ‘female spaces’ and not ‘male-friendly’ [5]. Other barriers to men’s PMTCT engagement include men’s time constraints due to employment, lack of knowledge about PMTCT strategies and the importance of men as caregivers, and harmful gender norms that discourage open communication and joint decision making among couples [5,11,12]. Similar barriers likely also affect men’s involvement in ECD programs, although very little research has examined men’s engagement in ECD programs [13]. In order to develop successful, holistic PMTCT services, more research is needed to explore how to design and implement integrated PMTCT and ECD strategies that effectively engage men.
We conducted in-depth interviews with women enrolled in an integrated PMTCT-ECD program that optimized clinic wait times to deliver ECD and responsive caregiving lessons to PMTCT clients while they waited to receive routine ART services. Though this program was not targeted to men, we hypothesized that mothers’ participation had indirect effects on male caregivers and family dynamics. We investigated participating mother’s perceptions regarding fathers’ buy-in to the integrated PMTCT-ECD program, level of involvement in ECD activities with their children at home, and any indirect effects the program had on couple dynamics and communication. We also explored perceived barriers to male caregiver involvement in the PMTCT-ECD program, as well as mothers’ recommendations to facilitate greater male engagement.

Methods

The Intervention

We conducted an integrated PMTCT-ECD intervention for HIV-positive mothers and their young children (aged 1.5-24 months) in six health facilities in central Malawi. Facilities varied in size, type (district hospital, mission hospital, health center), and district. Mothers who were HIV-positive, enrolled in PMTCT programs at participating facilities, and whose youngest child was <8 weeks of age were recruited to participate in the integrated PMTCT-ECD program. Enrolled mothers received an interactive ECD skills development session during every PMTCT visit (every 1-3 months, depending on mothers’ time since ART initiation and ART adherence measures) until they graduated from the PMTCT program when their child reached 24 months of age. Mothers could also access ECD sessions anytime they attended a facility, whether for PMTCT or not. ECD sessions were offered while mothers waited for routine health services, so participation did not require additional time or resources from the mothers.

ECD sessions followed the WHO-UNICEF ‘Care for Child Development’ package that sensitizes mothers to the developing cognitive, emotional and communication needs of their infants, and reinforces caregiving sensitivity and responsivity through support and simple play activities [14]. Mothers are trained through interactive lessons, play, and demonstrated scenarios to talk and sing with infants at an early age, make eye contact, mimic infant vocalizations, and recognize and respond to their infant’s developmental milestones. All sessions were implemented by trained ECD counselors who were ‘Expert Clients’, a Malawi cadre of HIV-positive community members who volunteer for a small monthly stipend to provide HIV counseling and support to infected individuals [15].

Data Collection

In-depth interviews were conducted from June to July 2019 with a random subset of 29 mothers enrolled in the PMTCT-ECD program across four implementing facilities for ≥6 months. Interview guides and the analysis framework were developed to assess mothers’ ECD knowledge, practice and male caregiver involvement in ECD. Guides were piloted amongst three women to ensure comprehensibility and refined based on feedback. Interviews were conducted in the local language (Chichewa) in private spaces in the health facilities and ranged in duration from 30-50 minutes. Women were compensated 4000 Malawi Kwacha (approximately US $5) for their transportation costs to attend the interview.

Data analysis
Audio recordings were translated and transcribed to English for analysis. For this paper, we only include interviews with women who report that the father of their youngest child was present in the child’s daily life (since absent fathers will not be exposed to ECD sessions nor will they have a chance to practice ECD activities with the child). A preliminary codebook was generated using deductive coding from existing literature and inductive coding from pilot interviews. Two investigators (TT and PK) coded the same five transcripts separately using Atlas.ti, compared codes, and resolved differences. An additional two transcripts were simultaneously coded with similar codes between investigators. The final codebook was used by the same two investigators to code all remaining transcripts. Data were analyzed using constant comparison methods. Below we present dominant themes related to male engagement and fathers’ understanding and interest in PMTCT-ECD programs.

Patient and Public Involvement
Patients or the public were not involved in the design, conduct, reporting, or dissemination plans of our research.

Ethical Approval
Ethical approval was attained from the University of California Los Angeles IRB (ID# 20-003525) and the Malawi institutional review board, National Health Sciences Review Committee (ID# 19/03/2429).

Results
A total of 29 mothers were interviewed. Twenty-two mothers (76%) reported that the father of their youngest child was present in the child’s life and were included in this analysis. Mothers had a mean age of 30 years, a median of 4 children, and only one woman had no education (Table 1). All mothers self-reported attending the majority of ECD sessions. Half of these mothers reported that fathers spent time with their youngest child on a daily basis, and only one mother reported that the father spent time with the child once per week or less. All but one mother reported that they communicated with the father about the ECD program. Almost all mothers reported that the fathers’ primary responsibility was to provide financially for their children, but that fathers also played with children and looked after children when mothers were busy.

| Table 1. Respondent demographic characteristics |
|-----------------------------------------------|
| Participants (n=22)                           |
| Age, mean (range)                             | 30 (21-42) |
| Married, No. (%)                              | 20 (91)    |
| Number of children, median (range)            | 4 (1-8)    |
| Household primary income, No. (%)             |           |
| Formal employment                             | 0          |
Informal employment | 22 (100)
---|---
Not working | 0
Education, No. (%) |  
No education | 1 (5)
Primary | 10 (45)
Secondary or higher | 11 (50)
Male partner involvement |  
With infant every day | 11 (50)
With infant several days a week | 10 (45)
With infant <1 days a week | 1 (5)
Discussed PMTCT-ECD program with male partner | 21 (96)
ECD session attendance |  
Attend most sessions | 22 (100)
Attend a few sessions | 0
Dropped out of program | 0

**Fathers valued ECD and increased their engagement with their youngest child**

Most mothers reported that fathers had positive opinions towards the ECD program, reporting that male partners noticed the progress in their youngest child because of new ECD practices. In families with older children, mothers reported that their partners recognized differences between the youngest child and older siblings who were raised without the ECD program.

*My husband* plays with the child and he has seen a change, he asks me why the child is different from the others and I tell him that we learn ECD at the hospital and they teach us about the child’s behavior. – *Mother of 8, age 31*

Most mothers reported that their partners supported and actively implemented ECD practices at home. Mothers directly shared ECD lessons learned from the intervention with their partner, and these lessons were put into practice by both parents.

*My husband* was wondering why I was so fond of making things like balls and toy cars, and when he asked, I explained to him about [what I learned at] the ECD program. Now he helps me with making toys for the kid. – *Mother of 7, age 34*

After I told my husband about ECD, he is active with the child; he makes him porridge, sings to him, and plays with him – *Mother of 2, age 21*

Mothers believed that male partners were motivated to practice ECD behavior with their children because their child gave immediate positive response to stimulation and because fathers understood the long-term benefit of ECD practices.

*ECD taught me about singing and playing with the child, and when the father of the child does this [singing and playing] and sees how the child is responding, he sees how important the ECD sessions are.* – *Mother of 3, age 20*
Family relationships were strengthened as a result of increased communication and ECD knowledge sharing

Several mothers reported that since the ECD program started, their male partners and youngest children have developed a closer, more intimate bond, reportedly due to increases in ECD knowledge and practices.

The bond has increased between [the father and the child] and I am able to leave the child with him and he is able to take care of the child. – Mother of 5, age 37

Nearly all reported increases in communication, which often resulted in better teamwork and understanding between the couple. Over half of mothers reported improved relationships with their male partners since starting the ECD program. Frequently cited examples included sharing more responsibilities at home (improved equity), having a common goal regarding their children and childcare, encouragement and support of one another for individual and joint goals, and even living with less conflict due to increased communication and a sense of purpose for childrearing.

Me and my husband are living in harmony because we are raising this child together. The father of the child has just realized that the responsibility is for the both of us. – Mother of 5, age 37

Because of the program, even when we are fighting, the issues that have to do with the child bring us together so that we even laugh together and forget the fight. – Mother of 4, age 31

Remaining barriers to male partner attendance of the PMTCT-ECD program

Only a few mothers believed that their partner would feel comfortable attending the PMTCT-ECD program, citing examples of their partners’ active interest in the ECD sessions. However, only one mother reported that her partner routinely attended the PMTCT-ECD program. Some women believed that men in their community who attended antenatal visits to support their wives might also feel comfortable attending the ECD program, but men who were not comfortable attending antenatal or PMTCT visits would not attend ECD.

I see [my husband’s] interest from the way he reacts and asks questions to follow what we have learnt at the ECD program, so I think he might come [to the program]. – Mother of 7, age 34

Most mothers believed that their partners would be unwilling to attend ECD sessions at the clinic, particularly because the PMTCT-ECD program was organized around PMTCT services. Several mothers stated that men would not feel comfortable being at PMTCT clinics due to stigma and concerns about being pressured to test for HIV while attending ECD sessions.

Many fathers think that [health workers] will be talking to them in public and they will be embarrassed. I think the big problem for men is being shy. – Mother of 6, age 31
Other mothers reported that their partners believed that ECD sessions were only for women and would not attend but desired to hear about ECD through the female partner. These men still practiced ECD activities at home, but believed that men were not meant to attend the PMTCT-ECD intervention.

*Some men will not come because they might say that the program is meant for women not men.* – Mother of 4, age 31

Even if men felt comfortable coming to the clinic, many mothers identified other barriers to participation. A majority of mothers reported that the time required to travel to the clinic and wait for services was a significant barrier – most men would not sacrifice income-generating activities to attend an ECD session.

*Men will not come [to ECD sessions] because when we come here we play with the kids and he may consider that as wasting time; he would rather do other helpful things.* – Mother of 3, age 31

**Additional strategies to engage men in ECD programs**

Almost all mothers believed that male caregiver engagement in ECD could be increased through raising awareness and educating men about the importance of PMTCT-ECD activities for children. Most suggested that the program needed to actively invite fathers to attend in order to demonstrate that male caregivers are welcome and encouraged to participate in PMTCT-ECD. Several mothers also believed that men would be more comfortable with male-only sessions.

*Health workers* should make an effort to explain that both fathers and mothers are important in ECD. They should help us explain [to male partners] that this is not a place to force people to test blood [for HIV] but to know our responsibility as a father and mother in caring for children. – Mother of 6, age 31

*There is a need to invite the fathers as well. Tell the mothers to come with their husbands so that the fathers should also be able to listen about ECD ... We should be able to bring the husbands to the ECD so that we listen to the counseling together.* – Mother of 2, age 26

However, the majority mothers believed that men could best be reached outside the clinic. Most suggested sending illustrated, informational pamphlets home with women after each PMTCT-ECD visit to increase male engagement and awareness regarding ECD practices.

*Men are busy, even sometimes when they can’t come for an [ART] refill here we get drugs for them because they are so busy, but if they can read [the pamphlet] then they will know what they are supposed to do.* – Mother of 4, age 34

Some mothers also suggested directly engaging men in the community to explain ECD through phone calls or home visits to male partners of mothers in the ECD program, or larger community meetings that incorporate all fathers within the community.
Men should be sensitized to the importance of the program and also the need for the participation of everyone. – Mother of 4, age 31

A woman should encourage her husband about the advantages of the ECD program and also the counselors should be visiting them in their homes and encouraging them to be coming to the sessions... If a man comes to get his drugs [ART] as well, he should be encouraged to participate [in the ECD program]. The other way is to make phone calls to them and remind them about the meetings. – Mother of 5, age 34

Finally, a few mothers suggested that ECD sessions should be integrated as part of normal clinic activities of men. For example, at outpatient or sexually transmitted infection (STI) departments where men frequent.

When [men] come to get drugs on their own, they should be briefed about ECD so the men who have children can get that information. – Mother of 4, age 34

Discussion

Fathers play a critical role in child development and mothers’ engagement in PMTCT strategies. We explored fathers’ perception of an integrated PMTCT-ECD intervention that targeted mothers living with HIV in Malawi, including barriers to men’s involvement, and recommendations for engaging men in ECD interventions in the future. We relied on secondary reports from mothers participating in the PMTCT-ECD program since they are most familiar with both intervention activities, and the fathers’ perception of these activities. We found that nearly all mothers discussed ECD lessons with their male partners (fathers) frequently. Within a PMTCT-ECD intervention that was not specifically targeted to men, most fathers were perceived to have high levels of buy-in for the ECD intervention, accept ECD messaging, and actively practice ECD activities at home with their children. The PMTCT-ECD intervention increased couple communication within some relationships by providing the mother and father with a joint goal around ECD for their family due to the intervention. However, most mothers believed that fathers would not attend the intervention due to concerns regarding HIV-related stigma at PMTCT centers, time required to attend, and perceptions that the intervention was intended only for women.

Mothers believed that fathers were interested in gaining greater ECD skills and actively involved in actively involved in ECD activities at home. This supports other studies in South Africa reporting that many men are interested in education and counseling to prepare for fatherhood [12]. Our findings contradict literature that suggests that cultural perceptions regarding gender norms continue to be a major barrier to fathers’ engagement in ECD and responsive childcare [9] – we find that fathers are, as reported by their female partners, largely seen as engaged and active parents. Future parenting and ECD programs should actively include and target fathers, who have been shown to support antenatal care and PMTCT, prioritize preparing for fatherhood, and may have a deep interest in learning responsive caregiving techniques [5,12,16].

Most mothers reported that fathers engagement in caregiving increased as a result of ECD knowledge gained from mothers’ participation in the PMTCT-ECD program. As a result, some
women believed that family relationships were strengthened due to increased couple communication and sharing of caregiver responsibilities between mother and father. These findings are consistent with a study in Tanzania and Zimbabwe that found that interventions aimed to increase male involvement in maternal and child health activities improved relationships and positive emotional outcomes among many couples, which further encouraged men’s engagement as caregivers [17]. Other studies highlight the role of male partner engagement in providing additional social support to mothers, which can further improve ECD outcomes [18,19]. Though not examined in our analysis, these positive effects on families may translate to secondary benefits as well. Other studies from the region have found associations between male partner involvement in PMTCT and subsequent health outcomes of both mothers and children including decreased risk of HIV transmission, decreased risk of child mortality, and increased maternal adherence to ART [19, 20]. These findings support the need to tailor programs such as PMTCT-ECD interventions for both parents and welcome fathers into these spaces in order to increase ECD knowledge and awareness among men and strengthen PMTCT through an integrated, holistic approach.

Despite fathers’ support for and value of ECD sessions, mothers believed most men were uncomfortable attending the current PMTCT-ECD program. This finding is supported by other studies in sub-Saharan Africa that have found that while many men are interested in participating in maternal and child health interventions, actual male attendance rates remain low [8,21]. Most mothers in our study believed male partners were uncomfortable attending these sessions because they were held at the ART clinic where men assumed they would be pressured or forced to test for HIV. Some mothers also reported that men believed the ECD sessions, and PMTCT services more broadly, were not meant for fathers. Our findings corroborate previous literature. In their systematic review of barriers and facilitators of male partner involvement in PMTCT, Morfaw et al. also found the most salient barrier to male engagement was men’s perception that PMTCT and antenatal clinics were ‘women’s spaces’, revealing that men need to be actively welcomed into facility spaces if perceptions of female-centered services are to be overcome [22].

To address these barriers to male involvement, the majority of mothers recommended using direct outreach targeting men in order to increase awareness about the importance of ECD and joint parenting. Some mothers also recommended actively inviting men to the current PMTCT-ECD program or providing ECD sessions at health facility services where men frequent (such as general outpatient services). A range of community-based approaches throughout the region have shown promising results in disseminating important maternal and child-related health information. These include home visits to HIV-positive mothers and their partners by male community ‘role models’ and male health workers, and community dissemination via radio or community spaces frequented by men including football events, markets, and churches [23–25]. In Malawi specifically, community leaders or ‘chiefs’ can provide the leadership necessary to encourage and normalize male engagement in maternal and child health interventions at the community level [21]. One recent meta-analysis found that community education interventions had the greatest impact, more than clinic invitation letters, facility-based interventions and verbal encouragement [26]. However, community-based outreach is expensive and time consuming, and may limit programs’ scalability. Regardless, future integrated PMTCT programs should consider utilizing community services or restructuring facility spaces to directly engage men.
Limitations
This study has several limitations that should be noted. First, we rely on mothers’ perceptions of their male partners – we do not have direct feedback from men themselves. Women participating in the study may have incomplete or skewed perceptions of their partners perceptions of and barriers to ECD sessions. Additional research is needed that directly engages fathers to further understand their perceptions of integrated PMTCT-ECD services, and how to engage them in these strategies. Second, the study is limited to mothers in central Malawi and may not be representative of other settings. However, our findings are similar to those found throughout the region, suggesting some comparability with other settings. Third, our data rely on mothers who were active in the PMTCT-ECD program for a minimum of 6 months. Future analyses should examine male engagement at the end of the program as fathers may show increased engagement over time.

Conclusion
Most mothers enrolled in a PMTCT-ECD program in Malawi believed fathers saw value in the PMTCT-ECD program, demonstrated interest in gaining ECD knowledge, and actively implemented ECD activities at home. Despite not having direct engagement with this PMTCT-ECD program, male caregivers still received ECD messaging and began to prioritize ECD activities at home, suggesting that men might be easily reached if programs were designed to include them. Although mothers reported increased interest in ECD among men, integrating PMTCT and ECD services alone was not enough to change perceptions that PMTCT is a women’s space. The structure of PMTCT strategies should be revised if men are to be engaged. In addition, ECD strategies could be implemented in locations where men frequent (community or outpatient departments) in order to directly engage men in ECD program activities.
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Author contributions
TC and LR led the parent PMTCT-ECD trial design, with involvement from LB and EU. KD and TT conceptualized the study as it pertained to male caregivers. TT, PK, CM and SM lead study implementation and data collection with support from SG. TT, PK and KD analyzed and interpreted study data. TT and JH drafted the manuscript and all authors were involved in editing and final review of drafts. All authors have approved the final manuscript.

Availability of data and materials
All relevant data are included in the article. Datasets used during the current study are available from the corresponding author on reasonable request.

Competing interests
The authors report no competing interests.

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| No. | Topic | Item |
|-----|-------|------|
| T1  | Title and abstract | Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended |
|    | Title | |
|    | Abstract | Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions |
|    | Introduction | |
|    | Problem formulation | Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement |
|    | Purpose or research question | Purpose of the study and specific objectives or questions |
|    | Methods | Qualitative approach and research paradigm |
|    | | Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/interpretivist) is also recommended; rationale<sup>1</sup> |
|    | | |
|    | | Researcher characteristics and reflexivity |
|    | Researchers’ characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers’ characteristics and the research process; asking methods, results, and/or transferability |
|    | Context | Setting/site and salient contextual factors; rationale<sup>1</sup> |
|    | Sampling strategy | How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale<sup>1</sup> |
|    | Ethical issues pertaining to human subjects | Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues |
|    | Data collection methods | Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale<sup>1</sup> |
|    | Data collection instruments and technologies | Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study |
|    | Units of study | Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results) |
|    | Data processing | Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/desidentification of excerpts |
|    | Data analysis | Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach and rationale<sup>1</sup> |
|    | Techniques to enhance trustworthiness | Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale<sup>1</sup> |
|    | Results/findings | Synthesis and interpretation |
|    | | Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory |
|    | | Links to empirical data |
|    | | Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings |
|    | Discussion | Integration with prior work, implications, transferability, and contribution(s) to the field |
|    | | Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field |
|    | Other | Limitations |
|    | Trustworthiness and limitations of findings |
|    | Conflicts of interest | Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed |
|    | Funding | Sources of funding and other support; role of funders in data collection, interpretation, and reporting |

<sup>1</sup> Authors created the SRQR by searching the literature to identify guidelines, reporting standards, and practices used in qualitative research. They then reviewed and modified procedures in consultation with experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.
Men care too: a qualitative study examining women’s perceptions of fathers’ engagement in early childhood development (ECD) during an ECD program for HIV-positive mothers in Malawi

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Men care too: a qualitative study examining women’s perceptions of fathers’ engagement in early childhood development (ECD) during an ECD program for HIV-positive mothers in Malawi

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Abstract

Objectives:
Integrated early childhood development (ECD) and prevention of mother to child transmission (PMTCT) interventions rarely target fathers, a missed opportunity given existing research demonstrating that father involvement improves maternal and child outcomes. We aimed to explore mother’s perceptions of fathers’ buy-in to an integrated PMTCT-ECD program, any impact the program had on couple dynamics, and perceived barriers to fathers’ involvement in ECD activities.

Design:
Qualitative study using individual in-depth interviews with mothers participating in a PMTCT-ECD program. Interviews assessed mothers’ perceptions of father buy-in and engagement in the program and ECD activities. Data were coded using inductive and deductive strategies and analyzed using constant comparison methods in Atlas.ti v1.6.

Setting:
Four health facilities in Malawi where PMTCT services were provided.

Participants:
Study participants were mothers living with HIV who were enrolled in the PMTCT-ECD program for >6 months.

Interventions:
The PMTCT-ECD intervention provided ECD education and counseling sessions during routine PMTCT visits for mothers living with HIV and their infants (infant age 1.5-24 months). The intervention did not target fathers, but mothers were encouraged to share information with them.

Results:
Interviews were conducted with 29 mothers. Almost all mothers discussed the PMTCT-ECD intervention with male partners. Most mothers reported that fathers viewed ECD as valuable and practiced ECD activities at home. Several reported improved partner relationships and increased communication due to the intervention. However, most mothers believed fathers would not attend the PMTCT-ECD intervention due to concerns regarding HIV-related stigma at PMTCT clinics, time required to attend, and perceptions that the intervention was intended for women.

Conclusions:
Fathers were interested in an integrated PMTCT-ECD program and actively practiced ECD activities at home, but felt uncomfortable visiting PMTCT clinics. Interventions should consider direct community outreach or implementing ECD programs at facility entry points where men frequent, such as outpatient departments.
Article summary

**Strengths and limitations of this study**

- Reaching fathers in Sub-Saharan Africa with early childhood development (ECD) strategies may improve child developmental outcomes, as well as family engagement with health services. This may be particularly true for children affected by HIV, who are more vulnerable to poor health and developmental outcomes.

- Men are rarely included in early childhood development (ECD) programs. Given this gap, we explored the role of an ECD program on men’s interest in, engagement in, and unmet needs regarding ECD activities in Malawi. We focus on the male partners of women living with HIV who were enrolled in an integrated prevention-of-mother-to-child-transmission (PMTCT) and ECD program for a minimum of 6 months.

- The study design and research question were based on strong conceptual framework from existing literature regarding male caregiver involvement in maternal/child health programs and in children’s lives.

- This study is limited by its reliance on mothers’ perceptions of their male partners' attitudes and engagement in ECD activities.
**Introduction**

Throughout sub-Saharan Africa, national HIV programs are transitioning from acute services to long-term, chronic care for those infected and affected by HIV. As countries transition, holistic, integrated health services are being prioritized. Prevention of mother-to-child transmission (PMTCT) services can especially benefit from a holistic approach. Across the region, approximately 90-95% of HIV positive pregnant women are on antiretroviral therapy (ART) and child infections have dropped significantly – now is the time to promote holistic mother and child services, which can benefit PMTCT retention and mothers’ and children’s general well-being [1,2].

Early Childhood Development (ECD) interventions represent one strategy to promote mothers’ PMTCT retention and mother and child wellbeing. ECD programs are associated with improved physical, psychosocial, and cognitive skills in children [3]. Since HIV-exposed uninfected children are at higher risk of mortality and delayed development than HIV-unexposed children, there is an opportunity to reach some of the most vulnerable children with ECD. An integrated program may also encourage PMTCT retention by improving the PMTCT visit experience for women and offering another motivation for clinic attendance [4]. However, both PMTCT and ECD programs tend to focus on women and fail to engage male partners [5]. The lack of male engagement threatens the potential impact of both PMTCT and ECD strategies. Further, there are increasing calls for increased entry points for men to be engaged with health facilities. Excluding men from ECD programs misses key opportunities to engage men as caregivers, and eventually as clients.

When men attend PMTCT programs, there is decreased risk of infant HIV infection and mortality [6]. Male involvement in PMTCT during pregnancy and after birth has been linked to improved maternal health behaviors, increased use of maternal and newborn health services, and is predictive of long-term involvement of fathers in their children’s lives [7]. A review of 18 studies assessing male involvement in reproductive health interventions in sub-Saharan Africa found that male involvement was consistently associated with improved reproductive health outcomes and greater spousal communication [8]. Another review of behavioral couples-based interventions around the time of pregnancy found that male involvement had the potential to improve HIV preventive behaviors and infant survival [9]. With regard to ECD and child wellbeing, increased male caregiver involvement is associated with improved cognitive development, increased social responsiveness and greater school achievement among children [10,11].

However, many obstacles limit male caregiver involvement in both PMTCT and ECD programs. Antenatal care (ANC) services and related PMTCT programs are often not designed to include men [5]. Healthcare providers, who are accustomed to speaking to women, have reported feeling uncomfortable talking about PMTCT or ECD with men [11]. This likely contributes to men’s perception of PMTCT and under-five clinics as ‘female spaces’ and not ‘male-friendly’ [5]. Other barriers to men’s PMTCT engagement include men’s time constraints due to employment, lack of knowledge about PMTCT strategies and the importance of men as caregivers, harmful gender norms that discourage open communication and joint decision making among couples, and the fact that male attendance is still not expected or required by community members or health care providers [5,12-15]. Similar barriers likely also affect men’s involvement in ECD.
programs, although very little research has examined men’s engagement in ECD programs [16]. In order to develop successful, holistic PMTCT services, more research is needed to explore how to design and implement integrated PMTCT and ECD strategies that effectively engage men.

We conducted in-depth interviews with mothers participating in an integrated PMTCT-ECD intervention in Malawi in order to investigate mothers’ perception of fathers’ buy-in to the integrated PMTCT-ECD program, level of fathers’ involvement in ECD activities with their children at home, and any indirect effects the program had on couple dynamics and communication. We also aimed to explore perceived barriers to male caregiver involvement in the PMTCT-ECD program, as well as mothers’ recommendations to facilitate greater male engagement.

**Methods**

The primary objectives of this study were to use qualitative interviews to evaluate mothers’ perceptions of male partners’ experiences with and perceptions of an integrated PMTCT-ECD intervention in Malawi.

**The Intervention**

A detailed description of the PMTCT-ECD intervention can be found elsewhere [17]. In brief, we conducted an integrated PMTCT-ECD intervention for HIV-positive mothers and their young children (aged 1.5-24 months) in six health facilities in central Malawi. Facilities varied in size, type (district hospital, mission hospital, health center), and district (Lilongwe, Kasungu, Nkhotakota). Mothers who were HIV-positive, enrolled in PMTCT programs at participating facilities, and whose youngest child was <8 weeks of age were recruited to participate in the integrated PMTCT-ECD program. Enrolled mothers received an interactive ECD skills development session during every PMTCT visit (every 1-3 months, depending on mothers’ time since ART initiation and ART adherence measures) until they graduated from the PMTCT program when their child reached 24 months of age. Mothers could also access ECD sessions anytime they attended a facility, whether for PMTCT or not. ECD sessions were offered while mothers waited for routine health services, so participation did not require additional time or resources from the mothers.

ECD sessions followed the WHO-UNICEF ‘Care for Child Development’ package that sensitizes mothers to the developing cognitive, emotional and communication needs of their infants, and reinforces caregiving sensitivity and responsivity through support and simple play activities [18]. Mothers are trained through interactive lessons, play, and demonstrated scenarios to talk and sing with infants at an early age, make eye contact, mimic infant vocalizations, and recognize and respond to their infant’s developmental milestones. All sessions were implemented by trained ECD counselors who were ‘Expert Clients’, a Malawi cadre of HIV-positive community members who volunteer for a small monthly stipend to provide HIV counseling and support to infected individuals [19].

**Study Design**

This was a qualitative study using individual in-depth interviews with mothers who had participated in the PMTCT-ECD intervention for >6 months. Given the relative lack of research in this specific area, we used a grounded theory approach [20]. Individual in-depth interviews
were used instead of focus group discussions in order to emphasize the experiences of individual participants and investigate the unique effects of the program within individual family units.

**Participant Selection**

Mothers participating in the PMTCT-ECD program were eligible for study participation if they had been enrolled in the program for >6 months in order to ensure exposure to the majority of the ECD curriculum. Participants were selected randomly in order to avoid biases in sample selection. Thirty-two mothers were randomly selected using a computer-generated random sequence of mothers and were stratified by health facility (8 participants selected from each of 4 facilities) to ensure representation of all districts and facility types. Participants were invited by study staff for an in-depth interview at the health facility. Written informed consent was obtained from each participant prior to study participation.

**Interview guide**

The interview guide was developed based on existing literature and previous experiences with the PMTCT-ECD program and pilot [21,22]. Interview guides assessed mothers’ ECD knowledge, practice, and male caregiver involvement in ECD. Specifically, with regard to male caregivers, mothers were asked to describe their perceptions of their male partners’ attitudes towards the program, involvement in ECD activities at home, any indirect effects of the program on couple and family dynamics, and potential barriers to male caregivers’ direct involvement with the PMTCT-ECD program at the health facilities. The interview guide was reviewed and edited by local study staff to ensure cultural humility and acceptability. Guides were piloted amongst three women to ensure comprehensibility and refined based on feedback.

**Data Collection**

In-depth interviews were conducted from June to July 2019 with a random subset of 29 mothers enrolled in the PMTCT-ECD program across four implementing facilities for ≥6 months. Data collection was stopped after 29 interviews as thematic saturation had been reached. Interviews were conducted in the local language (Chichewa) by a trained, local female research assistant in private spaces in the health facilities. Interviews ranged in duration from 30-50 minutes and were audio recorded. Women were compensated 4000 Malawi Kwacha (approximately US $5) for their transportation costs to attend the interview.

**Data analysis**

Audio recordings were translated and transcribed to English for analysis. For this paper, we only include interviews with women who report that the father of their youngest child was present in the child’s daily life. Interviews with women who reported absent fathers were omitted from this analysis since absent fathers would not have been exposed to ECD sessions nor would they have a chance to practice ECD activities with the child. A preliminary codebook was generated using a combination of deductive and inductive approaches. Using deductive coding, we developed an a priori codebook based on an initial version of the interview guide and themes found in existing literature. Additional codes were added using inductive coding from pilot interviews, which allowed additional themes and theories to emerge from the preliminary data. Two investigators (TT and PK) coded the same five transcripts separately using Atlas.ti, compared codes, and resolved differences. One investigator was a Malawian researcher with extensive qualitative research experience. The other investigator was a U.S. medical student with training in
qualitative research. An additional two transcripts were simultaneously coded with similar codes between investigators. The final codebook was used by the same two investigators to code all remaining transcripts. Data were analyzed using constant comparison methods. Below we present dominant themes related to male engagement and fathers’ understanding and interest in PMTCT-ECD programs.

Patient and Public Involvement

Patients or the public were not involved in the design, conduct, reporting, or dissemination plans of our research.

Ethical Approval

Ethical approval was attained from the University of California Los Angeles IRB (ID# 20-003525) and the Malawi institutional review board, National Health Sciences Review Committee (ID# 19/03/2429).

Results

Of the 32 mothers randomly selected for an interview, a total of 29 mothers were successfully interviewed. Twenty-two mothers (76%) reported that the father of their youngest child was present in the child’s life and were included in this analysis. Mothers had a mean age of 30 years, a median of 4 children, and only one woman had no education (Table 1). All mothers self-reported attending the majority of ECD sessions. Half of these mothers reported that fathers spent time with their youngest child on a daily basis, and only one mother reported that the father spent time with the child once per week or less. All but one mother reported that they communicated with the father about the ECD program. Almost all mothers reported that the fathers’ primary responsibility was to provide financially for their children, but that fathers also played with children and looked after children when mothers were busy.

Table 1. Respondent demographic characteristics

| Variables (N=22)                      | Participants N (%) |
|--------------------------------------|-------------------|
| Age, mean (range)                    | 30 (21-42)        |
| Married                              | 20 (91)           |
| Number of children, median (range)   | 4 (1-8)           |
| Household primary income             |                   |
| Formal employment                    | 0                 |
| Informal employment                  | 22 (100)          |
| Not working                          | 0                 |
| Education                            |                   |
| No education                         | 1 (5)             |
| Primary                              | 10 (45)           |
| Secondary or higher                  | 11 (50)           |
Male partner involvement

| Activity                              | Count |
|---------------------------------------|-------|
| With infant every day                 | 11 (50) |
| With infant several days a week       | 10 (45) |
| With infant <1 days a week            | 1 (5)   |
| Discussed PMTCT-ECD program with male partner | 21 (96) |
| ECD session attendance                |       |
| Attend most sessions                  | 22 (100) |
| Attend a few sessions                 | 0      |
| Dropped out of program                | 0      |

**Fathers valued ECD and increased their engagement with their youngest child**

Most mothers reported that fathers had positive opinions towards the ECD program, reporting that male partners noticed the progress in their youngest child because of new ECD practices. In families with older children, mothers reported that their partners recognized differences between the youngest child and older siblings who were raised without the ECD program.

“My husband] plays with the child and he has seen a change, he asks me why the child is different from the others and I tell him that we learn ECD at the hospital and they teach us about the child’s behavior.” – Mother of 8, age 31

Most mothers reported that their partners supported and actively implemented ECD practices at home. Mothers directly shared ECD lessons learned from the intervention with their partner, and these lessons were put into practice by both parents.

“My husband] was wondering why I was so fond of making things like balls and toy cars, and when he asked, I explained to him about [what I learned at] the ECD program. Now he helps me with making toys for the kid.” – Mother of 7, age 34

“After I told my husband about ECD, he is active with the child; he makes him porridge, sings to him, and plays with him.” – Mother of 2, age 21

Mothers believed that male partners were motivated to practice ECD behavior with their children because their child gave immediate positive response to stimulation and because fathers understood the long-term benefit of ECD practices.

“ECD taught me about singing and playing with the child, and when the father of the child does this [singing and playing] and sees how the child is responding, he sees how important the ECD sessions are.” – Mother of 3, age 20

**Family relationships were strengthened as a result of increased communication and ECD knowledge sharing**

Several mothers reported that since the ECD program started, their male partners and youngest children have developed a closer, more intimate bond, reportedly due to increases in ECD knowledge and practices.
The bond has increased between [the father and the child] and I am able to leave the child with him and he is able to take care of the child. – Mother of 5, age 37

Nearly all reported increases in communication, which often resulted in better teamwork and understanding between the couple. Over half of mothers reported improved relationships with their male partners since starting the ECD program. Frequently cited examples included sharing more responsibilities at home (improved equity), having a common goal regarding their children and childcare, encouragement and support of one another for individual and joint goals, and even living with less conflict due to increased communication and a sense of purpose for childrearing.

Me and my husband are living in harmony because we are raising this child together. The father of the child has just realized that the responsibility is for the both of us. – Mother of 5, age 37

Because of the program, even when we are fighting, the issues that have to do with the child bring us together so that we even laugh together and forget the fight. – Mother of 4, age 31

Remaining barriers to male partner attendance of the PMTCT-ECD program

Only a few mothers believed that their partner would feel comfortable attending the PMTCT-ECD program, citing examples of their partners’ active interest in the ECD sessions. However, only one mother reported that her partner routinely attended the PMTCT-ECD program. Some women believed that men in their community who attended antenatal visits to support their wives might also feel comfortable attending the ECD program, but men who were not comfortable attending antenatal or PMTCT visits would not attend ECD.

I see [my husband’s] interest from the way he reacts and asks questions to follow what we have learnt at the ECD program, so I think he might come [to the program]. – Mother of 7, age 34

Most mothers believed that their partners would be unwilling to attend ECD sessions at the clinic, particularly because the PMTCT-ECD program was organized around PMTCT services. Several mothers stated that men would not feel comfortable being at PMTCT clinics due to stigma and concerns about being pressured to test for HIV while attending ECD sessions.

Many fathers think that [health workers] will be talking to them in public and they will be embarrassed. I think the big problem for men is being shy. – Mother of 6, age 31

Other mothers reported that their partners believed that ECD sessions were only for women and would not attend but desired to hear about ECD through the female partner. These men still practiced ECD activities at home, but believed that men were not meant to attend the PMTCT-ECD intervention.

Some men will not come because they might say that the program is meant for women not men. – Mother of 4, age 31
Even if men felt comfortable coming to the clinic, many mothers identified other barriers to participation. A majority of mothers reported that the time required to travel to the clinic and wait for services was a significant barrier – most men would not sacrifice income-generating activities to attend an ECD session.

*Men will not come [to ECD sessions] because when we come here we play with the kids and he may consider that as wasting time; he would rather do other helpful things.* – *Mother of 3, age 31*

### Additional strategies to engage men in ECD programs

Almost all mothers believed that male caregiver engagement in ECD could be increased through raising awareness and educating men about the importance of PMTCT-ECD activities for children. Most suggested that the program needed to actively invite fathers to attend in order to demonstrate that male caregivers are welcome and encouraged to participate in PMTCT-ECD. Several mothers also believed that men would be more comfortable with male-only sessions.

*Health workers*] should make an effort to explain that both fathers and mothers are important in ECD. They should help us explain [to male partners] that this is not a place to force people to test blood [for HIV] but to know our responsibility as a father and mother in caring for children. – *Mother of 6, age 31*

*There is a need to invite the fathers as well. Tell the mothers to come with their husbands so that the fathers should also be able to listen about ECD ... We should be able to bring the husbands to the ECD so that we listen to the counseling together.* – *Mother of 2, age 26*

However, the majority mothers believed that men could best be reached outside the clinic. Most suggested sending illustrated, informational pamphlets home with women after each PMTCT-ECD visit to increase male engagement and awareness regarding ECD practices.

*Men are busy, even sometimes when they can’t come for an [ART] refill here we get drugs for them because they are so busy, but if they can read [the pamphlet] then they will know what they are supposed to do.* – *Mother of 4, age 34*

Some mothers also suggested directly engaging men in the community to explain ECD through phone calls or home visits to male partners of mothers in the ECD program, or larger community meetings that incorporate all fathers within the community.

*Men should be sensitized to the importance of the program and also the need for the participation of everyone.* – *Mother of 4, age 31*

*A woman should encourage her husband about the advantages of the ECD program and also the counselors should be visiting them in their homes and encouraging them to be coming to the sessions... If a man comes to get his drugs [ART] as well, he should be*
encouraged to participate [in the ECD program]. The other way is to make phone calls to them and remind them about the meetings. – Mother of 5, age 34

Finally, a few mothers suggested that ECD sessions should be integrated as part of normal clinic activities of men. For example, at outpatient or sexually transmitted infection (STI) departments where men frequent.

When [men] come to get drugs on their own, they should be briefed about ECD so the men who have children can get that information. – Mother of 4, age 34

Discussion

Fathers play a critical role in child development and mothers’ engagement in PMTCT strategies. We explored fathers’ perception of an integrated PMTCT-ECD intervention that targeted mothers living with HIV in Malawi, including barriers to men’s involvement, and recommendations for engaging men in ECD interventions in the future. We relied on secondary reports from mothers participating in the PMTCT-ECD program since they are most familiar with both intervention activities, and the fathers’ perception of these activities. We found that nearly all mothers discussed ECD lessons with their male partners (fathers) frequently. Within a PMTCT-ECD intervention that was not specifically targeted to men, most fathers were perceived to have high levels of buy-in for the ECD intervention, accept ECD messaging, and actively practice ECD activities at home with their children. The PMTCT-ECD intervention increased couple communication within some relationships by providing the mother and father with a joint goal around ECD for their family. However, most mothers believed that fathers would not attend the intervention due to concerns regarding HIV-related stigma at PMTCT centers, time required to attend, and perceptions that the intervention was intended only for women.

Mothers believed that fathers were interested in gaining greater ECD skills and actively involved in actively involved in ECD activities at home. This supports other studies in South Africa reporting that many men are interested in education and counseling to prepare for fatherhood [13]. Our findings contradict literature that suggests that cultural perceptions regarding gender norms continue to be a major barrier to fathers’ engagement in ECD and responsive childcare [10] – we find that fathers are, as reported by their female partners, largely seen as engaged and active parents at home. Future parenting and ECD programs should actively include and target fathers, who have been shown to support antenatal care and PMTCT, prioritize preparing for fatherhood, and may have a deep interest in learning responsive caregiving techniques [5,13,23].

Most mothers reported that fathers engagement in caregiving increased as a result of ECD knowledge gained from mothers’ participation in the PMTCT-ECD program. As a result, some women believed that family relationships were strengthened due to increased couple communication and sharing of caregiver responsibilities between mother and father. These findings are consistent with a study in Tanzania and Zimbabwe that found that interventions aimed to increase male involvement in maternal and child health activities improved relationships and positive emotional outcomes among many couples, which further encouraged men’s engagement as caregivers [24]. Other studies highlight the role of male partner engagement in providing additional social support to mothers, which can further improve ECD
outcomes [25, 26]. Though not examined in our analysis, these positive effects on families may translate to secondary benefits as well. Other studies from the region have found associations between male partner involvement in PMTCT and subsequent health outcomes of both mothers and children including decreased risk of HIV transmission, decreased risk of child mortality, and increased maternal adherence to ART [26, 27]. These findings support the need to tailor programs such as PMTCT-ECD interventions for both parents and welcome fathers into these spaces in order to increase ECD knowledge and awareness among men and strengthen PMTCT through an integrated, holistic approach.

Despite fathers’ support for and value of ECD sessions, mothers believed most men were uncomfortable attending the current PMTCT-ECD program. This finding is supported by other studies in sub-Saharan Africa that have found that while many men are interested in participating in maternal and child health interventions, actual male attendance rates remain low [8, 28]. Most mothers in our study believed male partners were uncomfortable attending these sessions because they were held at the ART clinic where men assumed they would be pressured or forced to test for HIV. Some mothers also reported that men believed the ECD sessions, and PMTCT services more broadly, were not meant for fathers. Our findings corroborate previous literature in Malawi and throughout Sub-Saharan Africa [29-31]. In their systematic review of barriers and facilitators of male partner involvement in PMTCT, Morfaw et al. also found the most salient barrier to male engagement was men’s perception that PMTCT and antenatal clinics were ‘women’s spaces’, revealing that men need to be actively welcomed into facility spaces if perceptions of female-centered services are to be overcome [30]. A qualitative study in Malawi found that while men were comfortable with supporting their partners’ antenatal clinic attendance in discrete ways (financial support, encouragement, reminders about clinic appointments), they felt that existing norms in their community prevented them from accompanying their partners to clinic appointments [15].

To address these barriers to male involvement, the majority of mothers recommended using direct outreach targeting men in order to increase awareness about the importance of ECD and joint parenting. Some mothers also recommended actively inviting men to the current PMTCT-ECD program or providing ECD sessions at health facility services where men frequent (such as general outpatient services). A recent review found that making antenatal clinics more ‘male-friendly’ contributed to normalization of father attendance [32]. These findings suggest that efforts to tailor ECD programs to include fathers may promote community-wide acceptance of male caregiver involvement in such programs.

A range of community-based approaches throughout the region have also shown promising results in disseminating important maternal and child-related health information and promoting ECD. These include home visits to mothers and their partners by male community ‘role models’ and male health workers, and community dissemination via radio or community spaces frequented by men including football events, markets, and churches [30, 33-35]. In Malawi specifically, community leaders or ‘chiefs’ can provide the leadership necessary to encourage and normalize male engagement in maternal and child health interventions at the community level [15, 26]. One recent meta-analysis found that community education interventions had the greatest impact, more than clinic invitation letters, facility-based interventions and verbal encouragement [36]. However, community-based outreach is expensive and time consuming,
and may limit programs’ scalability. Regardless, future integrated PMTCT programs should consider utilizing community services or restructuring facility spaces to directly engage men.

**Limitations**

This study has several limitations that should be noted. First, we rely on mothers’ perceptions of their male partners – we do not have direct feedback from men themselves. Women participating in the study may have incomplete or skewed perceptions of their partners perceptions of and barriers to ECD sessions. Additional research is needed that directly engages fathers to further understand their perceptions of integrated PMTCT-ECD services, and how to engage them in these strategies. Second, the study is limited to mothers in central Malawi and may not be representative of other settings. However, our findings are similar to those found throughout the region, suggesting some comparability with other settings. Third, our data rely on mothers who were active in the PMTCT-ECD program for a minimum of 6 months. Future analyses should examine male engagement at the end of the program as fathers may show increased engagement over time.

**Conclusion**

Most mothers enrolled in a PMTCT-ECD program in Malawi believed fathers saw value in the PMTCT-ECD program, demonstrated interest in gaining ECD knowledge, and actively implemented ECD activities at home. Despite not having direct engagement with this PMTCT-ECD program, male caregivers still received ECD messaging and began to prioritize ECD activities at home, suggesting that men might be easily reached if programs were designed to include them. Although mothers reported increased interest in ECD among men, integrating PMTCT and ECD services alone was not enough to change perceptions that PMTCT is a women’s space. The structure of PMTCT strategies should be revised if men are to be engaged. In addition, ECD strategies could be implemented in locations where men frequent (community or outpatient departments) in order to directly engage men in ECD program activities.
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Author contributions
TC and LR led the parent PMTCT-ECD trial design, with involvement from LB and EU. KD and TT conceptualized the study as it pertained to male caregivers. TT, PK, CM and SM lead study implementation and data collection with support from SG. TT, PK and KD analyzed and interpreted study data. TT and JH drafted the manuscript and all authors were involved in editing and final review of drafts. All authors have approved the final manuscript.

Availability of data and materials
All relevant data are included in the article. Datasets used during the current study are available from the corresponding author on reasonable request.

Competing interests
The authors report no competing interests.

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The SRQR created the SRQR by searching the literature to identify guidelines, reporting standards, and quality assessment criteria and adapting them for use in the SRQR. The SRQR is designed to support researchers in conducting qualitative research. The SRQR is designed to support researchers in conducting qualitative research. The SRQR is designed to support researchers in conducting qualitative research. The SRQR is designed to support researchers in conducting qualitative research.