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BMJ Open 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 programme, any impact the programme 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 programme. Interviews assessed mothers' perceptions of father buy-in and engagement in the programme and ECD activities. Data were coded using inductive and deductive strategies and analysed using constant comparison methods in Atlas.ti V.1.6.

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

Participants Study participants were mothers infected with HIV who were enrolled in the PMTCT-ECD programme for >6 months.

Interventions The PMTCT-ECD intervention provided ECD education and counselling sessions during routine PMTCT visits for mothers infected 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 practised 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.

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 ECD programmes. Given this gap, we explored the role of an ECD programme on men's interest in, engagement in, and unmet needs regarding ECD activities in Malawi. We focus on the male partners of women infected with HIV who were enrolled in an integrated prevention of mother-to-child transmission and ECD programme for a minimum of 6 months.
- ⇒ The study design and research question were based on strong conceptual framework from the existing literature regarding male caregiver involvement in maternal/child health programmes 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.

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

INTRODUCTION

Throughout sub-Saharan Africa, national HIV programmes 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 prioritised. 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 well-being. ECD programmes are associated with improved physical, psychosocial and cognitive outcomes 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 programme 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 programmes 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 rising calls for increased entry points for men to be engaged with health facilities. Excluding men from ECD programmes misses key opportunities to engage men as caregivers, and eventually as clients.

When men attend PMTCT programmes, 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 behaviours, 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 behavioural couples-based interventions around the time of pregnancy found that male involvement had the potential to improve HIV preventive behaviours and infant survival.⁹ With regard to ECD and child well-being, 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 programmes. Antenatal care (ANC) services and related PMTCT programmes 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 healthcare providers.^{5 12–15} Similar barriers likely also affect men's involvement in ECD programmes, although very little research has examined men's engagement in ECD programmes.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 programme, level of fathers' involvement in ECD activities with their children at home, and any indirect effects the programme had on couple dynamics and communication. We also aimed to explore perceived barriers to male caregiver involvement in the PMTCT-ECD programme, 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 mothers infected with HIV 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 centre) and district (Lilongwe, Kasungu, Nkhosakota). Mothers who were infected with HIV, enrolled in PMTCT programmes at participating facilities and whose youngest child was <8 weeks of age, were recruited to participate in the integrated PMTCT–ECD programme. 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 programme when their child reached 24 months of age. Mothers could also access ECD sessions anytime they attended a facility, whether for PMTCT services 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 sensitises mothers to the developing cognitive, emotional and communication

needs of their infants, and reinforces caregiving sensitivity and responsiveness 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 vocalisations, and recognise and respond to their infant's developmental milestones. All sessions were implemented by trained ECD counsellors who were 'Expert Clients', a Malawi cadre of HIV-positive community members who volunteer for a small monthly stipend to provide HIV counselling 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 emphasise the experiences of individual participants and investigate the unique effects of the programme within individual family units.

Participant selection

Mothers participating in the PMTCT-ECD programme were eligible for study participation if they had been enrolled in the programme 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 (eight participants selected from each of four 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 the existing literature and previous experiences with the PMTCT-ECD programme 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 programme, involvement in ECD activities at home, any indirect effects of the programme on couple and family dynamics, and potential barriers to male caregivers' direct involvement with the PMTCT-ECD programme at the health facilities. The interview guide was reviewed and edited by local study staff to ensure cultural humility and acceptability. Guides were piloted among 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 programme 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 to 50 min 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 practise 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 the 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 US 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 analysed using constant comparison methods. Below, we present dominant themes related to male engagement and fathers' understanding and interest in PMTCT-ECD programmes.

Patient and public involvement

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

RESULTS

Of the 32 mothers randomly selected for an interview, 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 programme. Almost all mothers reported that the fathers'

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	
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 programme with male partner	21 (96)
ECD session attendance	
Attend most sessions	22 (100)
Attend a few sessions	0
Dropped out of programme	0

ECD, early childhood development; PMTCT, prevention of mother-to-child transmission.

primary responsibility was to provide financially for their children, but that fathers also played with children and looked after children when mothers were busy.

Fathers valued ECD and increased their engagement with their youngest child

Most mothers reported that fathers had positive opinions towards the ECD programme, 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 recognised differences between the youngest child and older siblings who were raised without the ECD programme.

[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 learnt 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 practise ECD behaviour 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 programme 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 programme. 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 programme, citing examples of their partners' active interest in the ECD sessions. However, only one mother reported that her partner routinely attended the PMTCT–ECD programme.

Some women believed that men in their community who attended antenatal visits to support their wives might also feel comfortable attending the ECD programme, 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 programme was organised 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 practised 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 programme 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 of 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 programme, 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 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 infected 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 programme 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 practise 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 centres, 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 ECD activities at home. This supports other studies in South Africa reporting that many men are interested in education and counselling to prepare for fatherhood.¹³ Our findings contradict the literature that suggests that cultural perceptions regarding gender norms continue to be a major barrier to fathers' engagement in ECD and responsive childcare¹⁰—we find that fathers are, as reported by their female partners, largely seen as engaged and active parents at home. Future parenting and ECD programmes should actively include and target fathers, who have been shown to support ANC and PMTCT, prioritise 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 programme. 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 contributed to 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 programmes 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 programme. 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 the 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 and colleagues 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 these facility spaces if perceptions of female-centred 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 programme 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 normalisation of father attendance.³² These findings suggest that efforts to tailor ECD programmes to include fathers may promote community-wide acceptance of male caregiver involvement in such programmes.

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 in 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 normalise 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

programmes' scalability. Regardless, future integrated PMTCT programmes should consider using 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 ECD sessions and barriers to attendance. 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 programme for a minimum of 6 months. Future analyses should examine male engagement at the end of the programme as fathers may show increased engagement over time.

CONCLUSION

Most mothers enrolled in a PMTCT–ECD programme in Malawi believed fathers saw value in the PMTCT–ECD programme, demonstrated interest in gaining ECD knowledge and actively implemented ECD activities at home. Despite not having direct engagement with this PMTCT–ECD programme, male caregivers still received ECD messaging and began to prioritise ECD activities at home, suggesting that men might be easily reached if programmes 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 programme activities.

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Contributors TJC and LR led the parent prevention of mother-to-child transmission and early childhood development trial design, with involvement from LB and EU. KD and TT conceptualised the study as it pertained to male caregivers. TT, PK and SM lead study implementation and data collection with support from SG. TT, PK and KD analysed and interpreted study data. TT and JH drafted the manuscript and all authors were involved in editing and final review of drafts. KD is responsible for the overall content as the guarantor. All authors have approved the final manuscript.

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Data availability statement Data are available upon reasonable request.

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