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ABSTRACT

Background: Integrating early childhood parenting programmes into existing government services is a key strategy for reducing the loss of children's developmental potential in low- and middle-income countries. There is limited evidence of participants' perceptions of these programmes, especially when implemented at scale. We integrated an intervention into an existing government programme targeting pregnant women and mothers of children up to two years of age and their families in rural Colombia.

Methods: As part of a cluster randomised trial, 171 government workers (facilitators) implemented the intervention. The intervention included four components: 1) structured curricula, 2) play materials, 3) nutrition, and 4) training and supervision. In this qualitative evaluation of the programme, we conducted semi-structured interviews with beneficiary mothers (n=62), facilitators (n=40) and supervisors (n=8). Topic guides were developed to collect information on participants' perspectives of the acceptability, feasibility and effectiveness of the intervention and the enablers and barriers to implementation. All interviews were audiotaped and transcribed and data was analysed using the framework approach.

Results: Participants' responses indicated that the intervention was acceptable, feasible and effective. Key enablers to implementation were: 1) the use of evidence-based behaviour change techniques leading to interactive, fun and participatory sessions, 2) structured curricula with easy to use, simple activities and materials, 3) the focus on positive, supportive relationships, and 4) the perceived benefits of the programme to the beneficiary mothers, children and families, facilitators and programme supervisors. The main barriers were: 1) facilitators took time to become comfortable and competent in using the new participatory methodology, and 2) the logistics related to making and distributing the play materials.

Conclusion: Providing structured curricula and play materials with training and ongoing

supervision to enhance an existing programme targeting mothers, families and children was reported as acceptable, feasible, and effective by beneficiary mothers and programme staff.

Key words: Early childhood development, parenting programmes, low-and middle-income countries, qualitative evaluation, integrated services.

Key messages

- Integrating parenting programmes into existing government services is one strategy for reducing the numbers of children in low- and middle-income countries who are not reaching their developmental potential.
- There are few examples of large scale, integrated interventions in LMIC and limited information on the enablers and challenges of implementation and the perspectives of the participants and programme staff.
- Key enablers were the use of active learning and evidence-based behaviour change techniques, easy to use activities and materials, a structured curriculum, positive, supportive relationships among beneficiaries, delivery agents and programme supervisors, and the observable benefits of the intervention to children, mothers, families and staff.
- Key barriers were adjusting to the new methodology and the logistics of providing the play materials required for the intervention.
- Identifying key enablers and barriers to intervention implementation from the perspective of programme beneficiaries and programme staff can help inform future implementation.

1 INTRODUCTION

Millions of children under five years of age from low- and middle-income countries (LMIC) are not achieving their developmental potential (Black et al., 2017) with negative effects on the educational achievement, income, health, and well-being of future generations (Walker et al., 2011). Early childhood interventions that support parents to play and talk with their children and promote positive parent-child interactions benefit children's development (Richter et al., 2017). Despite the large evidence base showing the effectiveness of early childhood parenting interventions in LMIC, few interventions have been implemented at scale, and there is limited guidance on the process of wide-scale dissemination (Tomlinson, Hunt, & Rotheram-Borus, 2018). In order to reach large numbers of disadvantaged children, evidence-based interventions need to be integrated into existing government services in a sustainable way (Britto et al., 2017).

In Colombia, one of the government services providing early childhood services for vulnerable families is the Family, Women, and Infancy programme (FAMI). The FAMI programme provides support for pregnant women and mothers of children up to two years of age. The FAMI programme is delivered through a combination of group sessions and home visits by facilitators known as FAMI mothers who are women from the local community with a secondary level of education. Each FAMI mother has a group of twelve to fifteen beneficiary mothers. Through the operational guidelines for the programme, FAMI mothers are provided with a list of topics to be covered and they are responsible for developing the appropriate content. We designed enhancements for the FAMI programme that included structured curricula, adapted from the Jamaican home-visiting programme now called *Reach Up and Learn (RUL)* (Walker, Chang, et al., 2018; Grantham-McGregor & Smith, 2016) and on a previous adaptation to the Colombian context (Attanasio et al., 2014). Tutors were hired by the research team to train and supervise the FAMI mothers in the delivery of these curricula. We

conducted an effectiveness trial of this enhanced FAMI programme and found benefits to child cognitive development (effect size (ES)=0.15SD), a decreased risk of stunting (ES=0.13SD) and improvements in the quality of the home learning environment (ES=0.34 SD) (Attanasio et al., 2018). In this paper, we report a complementary qualitative evaluation of the intervention (Lewin, Glenton, & Oxman, 2009). The focus of the evaluation was informed by the Medical Research Council Framework for the development and evaluation of complex interventions (Craig et al., 2008). We conducted in-depth interviews with beneficiary mothers, FAMI mothers and tutors. The aims were: 1) to investigate the acceptability, feasibility and perceived effectiveness of integrating a structured parenting curriculum into the FAMI programme, and 2) to identify the enablers and barriers of intervention implementation.

2 METHOD

1.1 Study sample

We conducted a clustered randomised controlled trial of the parenting intervention in eighty-seven towns in Colombia (Attanasio et al., 2018). Forty-six towns (with 171 FAMI mothers) were allocated to the intervention arm and conducted the intervention for eleven months. Training and supervision were provided by nine tutors, with each tutor responsible for supervising an average of 19 FAMI mothers (range 16-22). Sampling for the qualitative evaluation was designed to maximise heterogeneity of FAMI mothers and geographical heterogeneity. At the end of the intervention, each tutor used rating scales to assess FAMI mothers on two factors: 1) skills in delivering the intervention, and 2) motivation to deliver the intervention. Tutors rated FAMI mothers using a scale from one to ten (0=very poor, 5=good, 10=excellent). We then defined two groups of towns by the average skills of the FAMI mothers:

lower skills (0-6) and higher skills (6-10) and three groups of towns by the average motivation of the FAMI mothers: low (0-3), medium (4-6), and high (7-10) motivation. Using a stratified random sampling procedure, we selected thirty towns to participate in this study. Out of these thirty towns, we randomly selected ten to interview two FAMI mothers. In the remaining towns, we interviewed one FAMI mother. Following this procedure, we achieved a final sample of FAMI mothers with similar characteristics in terms of skill and motivation to the complete sample. Mothers were eligible for participation in the qualitative evaluation if they had participated in the enhanced FAMI programme for more than six months, and had left the programme no more than one month before the end of the trial. FAMI mothers were asked to invite one or two beneficiary mothers meeting these criteria to participate in the interviews. In total, eight of the nine tutors, forty FAMI mothers, and sixty-two beneficiary mothers were interviewed. There were no refusals. However, we were unable to contact one tutor. The mean (SD) age of beneficiary mothers was 27.4 (7.2) years and over 90% had participated in the enhanced FAMI programme for the full duration of the programme (eleven months). Children of participating mothers had a mean (SD) age of 18.2 (8.6) months and 46.8% were boys. FAMI mothers had a mean (SD) age of 41.7 (11.1) years and had been working as a FAMI mother for a mean (SD) of 12.1 (8) years. Ethical approval was obtained from the Universidad de los Andes Ethics Committee (No. 557-2016).

2.2. Intervention

The enhanced FAMI programme evaluated in this study consists of four components: 1) structured curricula, 2) play materials, 3) nutrition education and a food package, and 4) training and supervision. Two separate curricula were designed to align with the existing structure of the FAMI programme that consisted of weekly group sessions and monthly home visits. The

curricula provided activities to promote children's development and to encourage sensitive, responsive parenting practices. In each session, mothers received a play and language activity, and a toy and/or a book that was exchanged at the next session. Mothers were also encouraged to make their own toys. Further details of the intervention are shown in Table 1. Tutors received five weeks of training in the programme and gave four weeks of training to FAMI mothers. Tutors provided field supervision for each FAMI mother every six weeks during which time they observed at least one group session and one home visit.

2.3 Measurements

The perspectives of the beneficiary mothers, FAMI mothers, and tutors were collected through individual, in-depth, semi-structured interviews (see table 2 for the topic guide). For this study, we focussed on three main outcomes. Two outcomes were implementation outcomes: 1) acceptability (how well the intervention was received by participants) and (2) feasibility (the extent to which the intervention could be implemented in the context). The third outcome related to staff and beneficiary outcomes, that is, participants' perceptions of the benefits and harms of the intervention (Proctor et al., 2011; Peters, Tran, & Adams, 2013). We selected these outcomes as the foci of this evaluation as they are salient implementation outcomes for the early adoption of a new intervention and can be investigated using qualitative methodology (Proctor et al., 2011). Additional implementation outcomes including implementation cost, fidelity, and adoption were reported using quantitative data in our previous impact evaluation (Attanasio et al., 2018). The length of the interviews averaged forty minutes for FAMI mothers, twenty minutes for beneficiary mothers, and ninety minutes for tutors.

2.4 Procedure

A female anthropologist, from an independent firm, conducted the face-to-face interviews with FAMI mothers and beneficiary mothers. The topic guides for the interviews were developed by the research team, discussed with the interviewer and then piloted by MG and the interviewer with four beneficiary mothers and one FAMI mother. Interviews were conducted one month after the end of the trial. One or two days prior to the interviews, FAMI mothers were asked to invite mothers to participate in the interview. The interviews took place in a private room at the venue for the group sessions. The field manager interviewed tutors via cell phone one month after completing the intervention. Tutors received an e-mail five days before the interview outlining the aims and the topics to be discussed and were asked to take the call in a private room.

2.5 Data analysis

All interviews were conducted in Spanish. Interviews were audiotaped and transcribed verbatim and transcriptions checked for accuracy against the audiotape. Transcriptions were then translated by the first author into English. The research team met regularly throughout this process to discuss how best to translate idioms and local expressions into English while maintaining the participants' meaning. The analyses were conducted using the framework approach (Ritchie & Spencer, 2002). We chose to use the framework approach in a prespecified analysis plan as it is appropriate for applied policy research that has clear objectives and specific information needs. The analysis was conducted manually in Excel and involved five steps: 1) familiarisation by reading and rereading the transcripts, 2) identifying themes and subthemes and constructing an index of codes, 3) assigning the codes to transcripts, 4) forming charts of each theme and subtheme, and 5) examining the charts to identify key characteristics of the data.. This process was conducted separately for FAMI mothers, beneficiary mothers, and

tutors and then the three analyses were compared to identify commonalities and differences across the three groups of respondents, in addition to examining patterns of responses within each group. The number of participants who reported each subtheme was recorded to indicate the salience of the theme in the data. The analysis integrated both deductive and inductive approaches. The initial coding framework was generated from the topic guides used for the semi-structured interviews. Additional inductive codes were generated to include new emerging themes as coding progressed. The thematic index was created by MLG and HBH, MLG coded the transcripts and prepared the charts with ongoing input and discussions with HBH. Interpretation of the data was conducted by MLG and HBH.

3 RESULTS

The main results are presented under three categories: (1) acceptability, (2) feasibility, and (3) effectiveness. Within each category, we identified themes and subthemes for beneficiary mothers, FAMI mothers, and tutors (Table 3). We also report beneficiary mothers and FAMI mothers' views on the group sessions and home visits.

3.1 Acceptability

Two major themes emerged under acceptability: 1) motivation to participate in the programme, and 2) toys and materials (Tables 3 and 4).

3.1.1 Motivation to participate in the programme

Mothers and FAMI mothers were motivated to participate in the programme due to its participatory nature and because they could see benefits to mothers and babies. Mothers appreciated learning how to make toys and how to play with their babies. The provision of food

supplies also motivated mothers to participate in the programme. FAMI mothers found the activities in the curriculum to be sufficient and varied, the instructions easy to follow, and they appreciated the structure provided by the curricula. Tutors also reported that FAMI mothers were motivated to use the curriculum, as it was structured, clear, and easy to use:

> *"FAMI mothers used to say all the time that the manual gave them everything. It tells them what activities to do, how to do them, at what time, everything."* [Tutor]

A supportive relationship between beneficiary mothers and FAMI mothers was highlighted by tutors and mothers as important in motivating mothers to participate in the programme:

> *"I can trust the FAMI. Now, I talk more, I ask more questions. We feel more confident and safer here."* [Mother]

The focus on building and maintaining positive relationships between FAMI mothers and tutors during training and supervision also promoted FAMI mothers' engagement with the intervention:

> *"The tutor was always very willing, very active and was not an ogre, but rather a friend- it was very nice to work with her."* (FAMI mother)

Most of the tutors and some FAMI mothers reported that FAMI mothers were initially reluctant to change their practice leading to some FAMI mothers being overly didactic when introducing activities and giving insufficient opportunities for mothers to practice. However, after a few months, FAMI mothers accepted the new methodology:

> *"At the beginning we were very reluctant to change our way of doing things, but with time we realised that those changes were good."* [FAMI mother]

A few FAMI mothers and tutors mentioned that activities for the babies under five-months-old were repetitive while some FAMI mothers thought that there were too many activities in some home visits.

3.1.2 Toys and materials

Mothers and FAMI mothers found the toys fun, easy to make and use, safe, and age-appropriate. Beneficiary and FAMI mothers appreciated the fact that the toys were low-cost and environmentally friendly. Beneficiary mothers reported that their babies preferred home-made toys over store-bought toys:

> *"My baby is more interested in things, simple things, like the shakers I made, than in other fancier toys."* [Mother].

A few FAMI mothers found some toys difficult to make. Also, the toys that encouraged children to walk were difficult to use because of the reduced space in the session venue. Only two mothers reported concerns with the safety of toys, both of whom said that the blocks were too heavy.

3.2 Feasibility

Three main themes emerged under the feasibility of the programme: 1) the curricula, 2) the use of the materials, and 3) the collaborative approach (Tables 3 and 4).

3.2.1 Curriculum

All participants reported that the beneficiary mothers used what they learnt through the programme with their babies at home. Most beneficiary mothers reported that the activities were easy to do. Some mothers, however, reported concerns that their child was not achieving the aim of the activity:

> *"I do not know what more I can do to make him understand the words. FAMI taught us "stop" and "go", and I have been encouraging him for a month and*

nothing." [Mother]

According to FAMI mothers and tutors, the curriculum was easy to follow and FAMI mothers were able deliver the activities and games with the mothers clearly. Tutors reported that FAMI mothers' prior skills and experience helped them use the curricula as expected.

The main challenge FAMI mothers and tutors reported in delivering the curricula was to manage the group, especially when babies were tired, upset, or not interested as the room became noisy and disorganised. The transition between activities was also hard for some FAMI mothers, especially when they needed to exchange the toys the children were using, or when they had to draw the mothers' attention back to a new topic or activity.

3.2.2 Toys and materials

Beneficiary mothers and FAMI mothers found most of the toys easy to make, enjoyed making them, and reported that they now have more toys available:

"Before the programme, we had nothing to play with or to work with. Now we do." [FAMI mother]

Even though the participants reported that mothers were taking toys home, many also reported that some play materials were less frequently borrowed, especially the manufactured toys such as books, puzzles and blocks. Tutors reported that FAMI mothers were more willing to lend the toys after home visits rather than group sessions. Ten mothers said that they were reluctant to borrow toys as they were afraid of losing them, and many others reported making copies of the toys instead of borrowing them. Many FAMI mothers expressed concerns that they may run out of play materials and only lent to mothers who directly asked for them:

"Some moms didn't take care of the material, so I didn't lend the toys again. How can I lend them the toys that are for all, if they damage them or never give them

back?" [FAMI mother].

Some FAMI mothers living in the remote rural areas reported difficulties finding the materials to make the plastic toys. Also, some toys were time consuming to make (e.g., dolls) and others needed materials that were harder to find (e.g., wire). Mothers and FAMI mothers found the nutrition cards used in the home visit to be useful, clear, and easy to put in practice.

3.2.3 Collaborative approach

FAMI mothers felt supported through the collaborative approach used in the training and supervision. Most of the mothers also appreciated the collaborative approach and reported that there was a respectful atmosphere in the group sessions and they felt supported not only by the FAMI mother, but also by other mothers:

> *"I feel very comfortable in the group sessions, because we listen to the opinions of others and we help each other."* [Mother]

However, tutors reported that some aspects of this approach were difficult for FAMI mothers initially.

> *"It was a bit difficult at the beginning, with the specific praises, they said a lot "very well, very well" but they didn't tell moms or babies what they did well."* [Tutor]

Learning to give and to receive praise was difficult for FAMI mothers. They often forgot to praise mothers, and they felt uncomfortable receiving praise from tutors.

3.3 Effectiveness

The main themes for effectiveness were the perceived benefits of the programme to beneficiary

mothers, babies, families, FAMI mothers, and tutors (Tables 3 and 4). There were no harms reported by any participants.

3.3.1 Benefits to mothers

Participants reported beneficiary mothers spent more time playing and talking with babies, used more praise, less physical punishment and reported being happier and more self-confident:

> *"I learned to share and understand my children more. The FAMI mother taught me to be more tolerant."* [Mother]
>
> *"Moms talked more to their babies, and they did the activities with more enthusiasm."* [Tutor]

FAMI mothers and tutors reported that over time mothers participated more and talked more with other mothers during the sessions. Mothers also reported benefits in terms of increased social support and increased knowledge on what foods to give and how to interact with their baby during mealtimes.

3.3.2 Benefits to babies

All the interviewees pointed out benefits for the babies. Babies were reported to be more active, cleverer, more sociable, happier, and more confident. As one mother stated:

> *"My daughter is very happy; she learned many songs. She points at each part of the body and knows the names of the clothes. My oldest son did not know so much."* [Mother]

3.3.3 Benefits to the families

Mothers and FAMI mothers reported that fathers and other family members were more involved

in child rearing, especially with play activities and toy-making. Also, they reported improvements in the relationship of the family members.

> *"With this programme, dads and other children get involved, that's the most beautiful thing! The fathers play games with their children."* [FAMI mother]

The food supplies received as part of the intervention represented an economic aid for the family.

3.3.4 Benefits to the FAMI mothers

FAMI mothers felt more confident and reported that they were better able to follow the progress of the children and that mothers trust them more:

> *"You learn a lot in this new programme, you share, you see that the child really makes progress. I give confidence to the mothers and when they need something, they look for me."* [FAMI mother]

Tutors also reported that FAMI mothers enjoyed their work more, had increased self-confidence, and learned new child development activities and a different way to work with the families.

3.3.5 Benefits to the tutors

Most of the tutors reported that they have learned more about early child development and the methodology of teaching. Some of them also reported that they have learned to be more resourceful and they found the work fulfilling as they were contributing to the communities. Finally, some tutors reported benefits to their own families as they applied the skills learned through the programme, such as praising and active listening, at home.

3.4 Advantages and Disadvantages of Group Sessions Versus Home Visits

The main advantages of the home visits reported by FAMI and beneficiary mothers were their more personalised nature and the involvement of other family members (Table 5). Beneficiary mothers also reported that it was easier to concentrate in the home visits. The majority of FAMI and beneficiary mothers reported that group sessions were more fun and they appreciated the opportunity for shared learning among mothers and for babies to interact. The majority of mothers felt comfortable in the group setting. Few FAMI mothers reported disadvantages with group sessions or home visits and no mothers reported disadvantages for home visits. Group sessions were most commonly preferred by beneficiary mothers, while the majority FAMI mothers liked group sessions and home visits equally.

4 DISCUSSION

In this study we report a qualitative evaluation of an effectiveness trial that involved integrating structured early childhood curricula into an existing government programme targeting families, mothers, and children in rural Colombia. Through this evaluation, we explored the acceptability, feasibility, and perceived effectiveness of programme from the perspectives of beneficiary mothers, delivery agents (FAMI mothers), and programme supervisors (tutors). Key findings are that the play materials were highly valued, the curriculum easy to use and the activities easy for the mothers to do at home. Participants also enjoyed the delivery methods that led to interactive sessions and valued the focus on positive, supportive relationships. The main challenges faced related to the logistics of providing the toys and for FAMI mothers to become confident and skilled in using the new methodology. All participants reported benefits to beneficiary mothers' caregiving practices and self-confidence and to children's development. Beneficiary mothers and FAMI mothers also reported increased involvement in child rearing by fathers and other family members. FAMI mothers and tutors also reported benefits to themselves from participating in the

programme.

There were several key enablers of programme implementation and effectiveness. Firstly, the use of evidence-based behaviour change techniques such as demonstration, practice, positive feedback, provision of resources and social support were highly valued by participants. Beneficiary mothers reported that the participatory nature of the sessions led to increased enjoyment and increased learning. The FAMI mothers also reported that these methods led to more engaging and effective parenting sessions. Previous studies have highlighted the value of using active learning and behaviour-change techniques to promote participation and learning (Smith et al., 2018; Singla & Kumbakumba, 2015; Yousafzai, Rasheed, & Siyal, 2018), and the importance of ensuring interventions are easy to implement and fun (Draper et al., 2019; Smith et al., 2018). These interactive methods have been identified as key characteristics of effective programmes (Yousafzai & Aboud, 2014; Briscoe & Aboud, 2012). Secondly, FAMI mothers appreciated the structured curriculum that provided information on what to deliver and how to deliver it. Provision of structured guidance in the form of curriculum manuals is important for promoting the quality of early childhood interventions and it is encouraging that explicit guidelines are also valued by delivery agents (Smith et al., 2018; Singla & Kumbakumba, 2015). Thirdly, participants were motivated to engage with the programme by the positive, supportive relationships between beneficiaries, delivery agents and programme supervisors. Providing explicit training to programme staff on how to build and maintain positive relationships through reflective listening, showing empathy, giving positive feedback, and collaborative problem-solving is important for effective implementation (Tomlinson, Hunt, & Rotheram-Borus, 2018; Baker-Henningham, 2018). Finally, all participants interviewed reported wide-ranging benefits to the mothers, children and/or families. Programme staff also reported benefits to their own personal and professional development. These perceived benefits are important for sustained participation

in the programme (Gladstone et al., 2018, Smith et al. 2018; Singla & Kumbakumba, 2015; Yousafzai, Rasheed, & Siyal, 2018).

There were two main barriers to intervention implementation. FAMI mothers initially found it difficult to use the participatory methods to deliver the curriculum and had difficulty in adjusting the activities for the child's developmental level. Other qualitative evaluations have reported that the skills of the delivery agents develop over time and that on-going training and supervision is required (Smith et al., 2018; Singla & Kumbakumba, 2015; Yousafzai, Rasheed, & Siyal, 2018). In this study, supervision was provided for each FAMI mother once every six weeks and this is likely insufficient. More frequent supervision would likely lead to larger benefits to child development; however, this is costly and may not be feasible at scale. Scaling a new intervention in phases in order to provide intensive supervision at the beginning of programme implementation may be a more feasible approach. Another barrier to implementation was related to the logistics of making and distributing the play materials. The provision of play materials is one of the core components of Reach-Up and Learn and is thus important to maintain effectiveness (Walker, Chang, et al., 2018). FAMI mothers and beneficiary mothers made the home-made toys from recycling materials and these toys posed few problems, except in a few of the remote rural areas where availability of materials was limited. However, the manufactured materials (blocks, puzzles, sorting and matching games, blocks, books) were a finite resource and were not always loaned to mothers. These problems with providing the play materials may have reduced the benefits to child development. This demonstrates the importance of paying attention to the ability of delivery agents to source the materials to make toys and to ensure there are sufficient toys for when they need to be replaced (Smith et al, 2018).

Previous qualitative evaluations of early childhood parenting programmes integrated into government services have reported problems with staffing including high staff turnover, requests

for additional financial compensation, and/or insufficient time to conduct the sessions leading to a reduction in session frequency and duration (Walker, Baker-Henningham, et al., 2018; Gladstone et al., 2018; Smith et al., 2018). Problems in maintaining positive relationships with beneficiaries have also been noted (Walker, Baker-Henningham, et al., 2018; Smith et al., 2018). However, in these prior studies, the intervention was integrated into the health services and delivery agents were health staff with a diverse remit. In this study, FAMI mothers, whose primary role was to support mothers, families, and children delivered the intervention, and there were few concerns related to workload or maintaining positive relationships with beneficiary mothers. Participants also reported that the intervention encouraged the participation of fathers and other members of the family in child-rearing. Fathers were initially engaged through toy-making activities and this increased their interest in the programme. In Malawi, fathers became engaged over time as they saw the benefits of the programme to mothers and children (Gladstone et al., 2018). Engaging fathers in early childhood parenting interventions is often difficult due to logistical, cost and cultural factors and hence the identification of feasible strategies to increase fathers' involvement is encouraging.

Few studies have explicitly examined participants' perceptions of home visits versus group sessions. The evidence-base for the effectiveness of early childhood parenting programmes in LMIC is stronger for home-visiting programmes. Integrating group parenting sessions into existing government services can increase the reach of interventions and has been shown to be effective alone (e.g. Chang et al. 2015; Hamadani et al., 2019) and in combination with home visits (e.g. Attanasio et al., 2018; Yousafzai et al., 2014). In this qualitative evaluation, participants recognised the value of both methods of delivery. Group sessions were perceived as more enjoyable and provided opportunity for peer learning and group support, while home visits were more personalised. The value of group sessions in promoting social interaction and peer

support has been reported in previous studies (Gladstone et al., 2018; Yousafzai et al., 2018; Singla & Kumbakumba, 2015) and may lead to increased benefits compared to home-visiting in some contexts (Hamadani et al., 2019). In Jamaica, mothers and health workers reported a preference for home visits over group sessions in a health clinic (Walker, Baker-Henningham, et al., 2018). However, in that study, the group sizes were large and the opportunity for social interaction was limited as sessions were provided through routine services within the health clinic.

The strengths of this study are the inclusion of multiple participants and the sampling of the FAMI mothers to ensure geographical heterogeneity and heterogeneity in FAMI mothers' skills and motivation. Interviews were conducted by an independent firm to reduce bias. To ensure that the mothers could easily recall their experiences of the programme, we only interviewed mothers who had been enrolled in the programme for at least six months and who had participated recently in the programme. Furthermore, FAMI mothers invited the beneficiary mothers to participate in the interviews. The majority of the selected beneficiary mothers had participated in the FAMI programme for the full duration of the intervention and were thus likely to be mothers with more favourable viewpoints. In addition, mothers were interviewed at the venue for the group sessions and mothers may be less likely to give negative feedback in this setting. However, the interviews were conducted in a private room. All in-depth interviews were conducted at the end of the effectiveness trial and for cost and logistical reasons, we were unable to conduct repeat interviews with selected participants throughout the intervention to identify their perceptions of the intervention over time or to conduct follow-up interviews to provide opportunities for participants to give feedback on the findings. We were also unable to track and interview the mothers who didn't engage with the intervention or who left the programme before the end of the trial. In the sample of mothers selected to participate in the

effectiveness trial for this intervention, 26% of mothers failed to attend any of the sessions. The benefits to child cognition were 0.15 SD for the full sample, 0.20 SD for those who attended at least one parenting session, and 0.39 SD for those who attended at least half of the sessions (Attanasio et al. 2018). To maximise the effectiveness of the programme, it is important to identify the reasons for this lack of engagement. In future work, we recommend conducting a series of in-depth interviews with a smaller number of participants from the beginning of the intervention to investigate the enablers and barriers to mothers' engagement.

Conclusion

Many studies have examined the effectiveness of early childhood parenting programmes in LMIC but there is little information on participants' perspectives of these programmes, especially when integrated into a government service and implemented on a large scale. This qualitative evaluation complements the findings from an impact evaluation of enhancements made to the FAMI programme, by adding information on the perspectives of the beneficiary mothers, FAMI mothers and tutors. These perspectives are helpful in identifying enablers and barriers to intervention implementation and can inform future implementation. The results are also relevant to parenting programmes in other LMIC as many issues apply across diverse cultures, contexts and programmes.

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Conflict of interest: None

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TABLE 1. Intervention Content, Organisation, Materials, and Process of Delivery

	Home visits	Group sessions
Content	***Stimulation component***: Structured curriculum with developmentally appropriate activities for 24 monthly visits. Each visit includes the following activities: - 1 Play activity - 1 Language activity - 1 Song - 1 nutrition education card. ***Nutrition component***: Precise and concise messages about ideas of nutritious foods (meals and snacks), activities to do during mealtimes and hygiene.	***Stimulation component*** Structured curriculum with 20 sessions for all children from birth to 24 months and 4 sessions exclusively for babies from birth to 5 months. Each session includes: - Feedback from the previous week - 1 Song - 1 Play activity - 1 Language activity - 1 Message: structured discussion about child rearing - Review of session ***Nutrition component:*** Nutrition messages including responsive feeding and menu ideas.
Organization	***Frequency***: Monthly ***Location***: Children's houses ***Participants***: mother, baby and other members of the family. ***Time***: 1 hour.	***Frequency***: weekly ***Location***: FAMIs' houses ***Participants***: 2-14 mother-baby dyads. ***Time***: 1 hour, plus 30 minutes of snack.
Materials	- ***Home visit curriculum manual:*** with full details on the play and language activities and the nutrition card to be introduced on each monthly home visit. - ***Home-made toys***: including toys made from recyclable plastic (e.g. shakers, pull-a-long toy, car) and toys made from soft materials (e.g. doll, soft ball). - ***Manufactured toys***: Toys delivered by the research team included: puzzles, books, blocks, sorting and matching games - ***Nutrition component***: 20 nutrition cards with age appropriate nutrition guidelines.	- ***Group session curriculum manual:*** with structured guidelines on all the activities to be introduced during each group meeting. - ***Home-made toys***: including toys made from recyclable plastic (e.g. shakers, pull-a-long toy, car) and toys made from soft materials (e.g. doll, soft ball). - ***Manufactured toys***: delivered by the research team included picture books and blocks. - ***Nutrition component***: Package of supplies including: beans, lentils, tuna, sardines, vegetable oil, and milk.
Process of Delivery	- Demonstration and practice - Positive feedback and support for mother and child - Building positive relationships with mother, child, and other family members - Encouraging mothers to conduct activities every day - Play materials used are left in the home	- Demonstration and practice - Positive feedback and support to mothers and children (individually and as a group) - Building positive relationships with and between mothers - Group discussions, sharing of ideas and shared learning - Mothers are given play materials to take home - Mothers are given home assignments to conduct specific play and language activities daily with baby

TABLE 2. Topic Guide Used During the In-Depth Interviews with Beneficiary Mothers, FAMI Mothers, and Tutors

Questions for beneficiary mothers
What motivated you to attend the group sessions/participate in the home visits? What made you less willing to attend/participate?
What did you like and dislike about the group sessions/home visits?
What do you think about the play materials, books and toys?
Were you able to borrow the play materials, books and toys?
Did you make any toys for your baby? If so, what toys did you make? How easy or difficult was it to find the materials/to make the toys?
How often were you able to do the activities at home with your baby? What helped? What hindered?
What activities did you like/not like?
What nutrition messages did you follow? What were the challenges/what made it easy to follow these messages?
What were the benefits of attending the programme to you and your baby?
Were there any negative effects of attending the programme?
Questions for FAMI mothers
What do you think encouraged mothers to attend the group sessions/participate in the home visits? What stopped mothers from attending/participating?
What went well in conducting the group sessions/home visits? What didn't go so well"
What activities were easy to do? What activities were more difficult?
What did you like/dislike about conducting the group sessions and home visits?
Did the mothers borrow the play materials after every group session? And every home visit? What made this possible? What made this difficult?
Were you able to use the curriculum during the group sessions/home visits? How often did you use it? What changes did you make?
What are the advantages/disadvantages to having the structured curriculum?
What do you think of the methods used in the programme (e.g. discussion, practice, praise)? How easy/difficult was it for you to use these methods?
What were the benefits of the programme to the mothers, babies and to yourself?
Were there any negative effects of the programme to the mothers, babies or yourself?
Questions for Tutors
What were the enablers and barriers related to FAMI's use of the contents and methodology of the curriculum?
What did the FAMI mothers do well? What did they find difficult?
How acceptable were the play materials to the mothers/FAMI mothers?
How easy was it for FAMI mothers and beneficiary mothers to find the materials to make the toys?
What helped/hindered in providing the toys to the mothers and babies?
What activities were easy to do? What activities were more difficult?
What challenges did you face in training and supervising the FAMI mothers in programme? What went well? What didn't go so well?
What were the benefits of the programme to the mothers, babies, FAMI mothers, and to yourself?
Were there any negative effects of the programme to the mothers, babies, FAMI mothers, or yourself?

TABLE 3. Categories, Themes and Subthemes Related to the Acceptability, Feasibility and Effectiveness of the Intervention According to Beneficiary Mothers, FAMI Mothers, and Tutors

Beneficiary Mothers (n=62)	FAMI mothers (n=40)	Tutors (n=8)
Acceptability		
Motivations to participate in the programme *Enablers* • Enjoy the participatory sessions (49) • Learn how to make toys and play with babies (47) • Babies learn more (23) • Nutrition package was a motivation (17) • FAMIs are supportive (15) *Challenges* • Peer relationships (3) **Toys and Materials** *Enablers* • Mothers like the toys (40) • Low cost & good for the environment (38) • Babies like home-made toys (20) • Easy to use (13) *Challenges* • Some toys are not suitable (2)	**Motivations to use the curricula** *Enablers* • Mothers participate a lot (35) • Good relationships with tutor (34) • Enjoy the participatory nature of the sessions (33) • Easy to use (30) • Enough activities (29) • Like to see mothers' and babies' progress (5) *Challenges* • Activities are too repetitive (8) • Reluctant to use methodology of the curriculum at the beginning (7) • Too many activities (5) **Toys and materials** *Enablers* • Easy to make toys (30) • Toys are easy to use (16) • Low-cost toys/good for the environment (15) *Challenges* • Toys difficult to make or use (7)	**FAMI mothers' motivation to use the curricula** *Enablers* • Good relationship between tutors and FAMI mothers (8) • FAMI mothers liked the activities/ and method of delivery (6) • Beneficiary mothers liked the activities and method of delivery (4) • FAMI mothers liked the structured nature of the curriculum (3) • FAMI mothers support mothers (1) *Challenges* • Activities are repetitive for some FAMIs and mothers (6) • FAMI mothers reluctant to use the methodology initially (6)
Feasibility		
Curriculum *Enablers* • Activities were easy (53) • Practiced the activities at home (48) • FAMI mother reminds mothers to practice the activities at home (9) *Challenges* • Activity was difficult for baby (15) **Toys and Materials** *Enablers* • Able take toys home (46) • Make toys (35) • Nutrition materials were easy to use (20) • Availability of toys at home (8) *Challenges* • Not always able to borrow toys (22) • Afraid of losing the toys (10) **Collaborative approach** *Enablers* • Respectful atmosphere (31) • Support from other mothers (20) • FAMI mothers were supportive (17)	**Curriculum** *Enablers* • The curricula were easy to follow (39) • Mothers practised activities at home (22) *Challenges* • Difficult to manage the session when babies are irritable (19) • Transitioning between the activities was difficult in group sessions (13) **Toys and Materials** *Enablers* • Nutrition materials were useful and clear (39) • Toys were loaned to mothers (27) • Sufficient toys in the FAMI (7) • Materials to make toys available (5) *Challenges* • Toys were not loaned to mothers (21) • Toys were difficult to use (12) • Materials to make toys were hard to find (5) **Collaborative approach** *Enablers* • FAMI mothers felt supported by tutors (32) • Positive environment in parent sessions (21) *Challenges* • Difficult use new methodology initially (18)	**Curriculum** *Enablers* • Beneficiary mothers do the activities with their babies (6) • FAMI mothers' experience & skills (4) • Curriculum is easy to use (3) *Challenges* • Some FAMI mothers lacked skills (5) • Difficulty managing session when babies are irritable (2) **Toys and materials** *Enablers* • FAMI mothers & mothers made toys (8) • Mothers & FAMI mothers like to make toys (4) • FAMI mothers lent toys in home visits (4) *Challenges* • Some FAMI mothers did not lend toys (8) • Some FAMI mothers did not make the complete set of toys (3) • Some mothers do not make toys (2) **Collaborative approach** *Challenges* • Difficulty using participatory methods initially (6) • Difficulty praising mothers initially (6)
Effectiveness		
Benefits to beneficiary mothers • Learned how to play with babies (37) • Learned to understand the baby and be more tolerant (21) • Learned to give better food to babies (22) • Share with other mothers (11) • Spend more time with baby (7) • Gain self-confidence (4) **Benefits to babies** • Learn new things and learn more quickly (22) • More sociable (20) • Clever and active (10) • More confident happy babies (5) **Benefits to families** • Food supplies (19) • Fathers more involved in child-rearing practices (17) • Other relatives more involved in child-rearing practices (17) • Better family relationships (16)	**Benefits to beneficiary mothers** • Spend more time with baby (27) • Increased knowledge (25) • Use more positive parenting practices (21) • Mothers made support group (10) • Mothers are happier (9) • Enjoy break from their routine (6) • Less harsh punishment used (6) • Increased participation (5) • Increased confidence (4) **Benefits to Babies** • Learn more (27) • More sociable (17) • More active (15) **Benefits to families** • Other family members more involved (25) • Fathers more involved (13) • The nutrition package saved money (12) **Benefits to FAMI mothers** • Mothers trust FAMIs (11) • FAMIs feel more confident (6) • Can track children's progress (4)	**Benefits to beneficiary mothers** • Increased participation in the group sessions and home visits (4) • Play and talk more to babies (3) • More confident (2) **Benefits to Babies** • More active and sociable (2) **Benefits to FAMI mothers** • Enjoy their work (5) • Increased self-confidence (4) • Increased professional skills (2) **Benefits to tutors** • Learn more about early child stimulation (5) • Apply skills to personal life (4) • Feeling useful to the community (2) • Learned to be resourceful (2)

The numbers in parenthesis indicate the number of participants who mentioned each subtheme.

Table 4. Evidence of Beneficiary Mothers, FAMI Mothers, and Tutors' Perceptions of the Acceptability, Feasibility and Effectiveness of the Intervention

Beneficiary Mothers	FAMI mothers	Tutors
Acceptability		
Motivations to participate in the program *Enablers:* 'I like coming to the FAMI. I like the songs, the way she delivers the sessions, the way she teaches us how to play with our children!' *(enjoy participatory nature of sessions)* *Challenges:* 'Some of the mothers were very mean. There were some mothers who were richer than others and they saw us as if we were less' *(peer relationships)* **Toys and materials** *Enablers:* 'Toys are fun, and you can make them easily, you always get a toy depending on your child's age. My baby likes the toys.' *(mothers like the toys)* *Challenges:* 'The blocks were not suitable for the smallest children; blocks were too big and heavy' (*toys not suitable)*	**Motivations to use the curricula** *Enablers:* 'I mean there is a mutual participation; one mom speaks, the other one gives her opinion, it is something very beautiful. With the praising, 'very good, congratulations', they feel flattered' *(enjoy the participatory nature of the sessions)* 'With the curriculum, it was very easy. Before we had to look to find a way to deliver it and implement it, we did not know if it would work or not. The curriculum has all the instructions and the sessions are related to each other so you can see the progress. It is not only separate activities; they have a thread. So it's easy, it gives you all the steps.' *(easy to use)* *Challenges:* 'At first, it seemed heavy doing every day the same thing. But, with time we saw the importance of the manuals, the materials, then we said, this is a very good material and we cheered up' *(hard to adjust to methodology at the beginning)* **Toys and materials** *Enablers:* 'I think they are spectacular. First, because they are recyclable, second, because the aim of each toy is clear, that is what we need from a toy!' *(toys are easy to use/toys are good for environment)* *Challenges:* 'The blocks were too heavy for babies to manage them.' *(toys are difficult to make or use)*	**FAMI mothers' motivations to use the curricula** *Enablers:* Creating bonds with them and listening to them, was very important, they wanted to be listened to. So, to have good communication with them, have a good relationship of trust, support, that was essential." *(good relationship between tutors and FAMI mothers)* 'The sessions were a lot of fun. FAMIs and mothers liked them' *(FAMIs/mothers liked the activities and method of delivery)* 'I find it excellent, very good. The methodology is innovative, practical, simple and very organized.' (*training was clear)* *Challenges*: 'I think that for the FAMI mothers … they were used to do unstructured sessions and based on talks rather than participatory. Some didn't like that at first.' *(FAMI reluctant to use methodology initially)* 'The repetition of the activities, that it is boring for them and for me.' *(activities are repetitive)*
Feasibility		
Curriculum *Enablers:* 'Everything is easy, it's practical. I teach my baby the parts of the body while singing.' *(learned how to play with baby)* *Challenges:* 'Well sometimes it takes too long for him. When FAMI was teaching us the session of the blocks, in and out, that was difficult.' *(child found activity difficult)* **Toys and Materials** *Enablers:* 'It's easy to make the toys.'*;* 'I have the toys there in a box and he goes and takes them out, so he likes them.' *(make toys/availability of toys at home)* *Challenges:* 'If you want, you can borrow a book or anything and then bring it back, but you need to ask the FAMI mother.' *(not always able to borrow toys)* **Collaborative approach** 'We are like a family, so when a new one arrives she feels welcome. You always feel well treated and that makes you feel good.' (*respectful atmosphere)* 'The FAMI mothers and other mothers, support me.' *(FAMI mothers were supportive/support from other mothers)*	**Curriculum** *Enablers:* 'The curriculum is easy to use. I always work with the curriculum.' *(curricula were easy to follow)* 'When I go to the visits then I see mothers and babies playing with the toys as I taught them!' *(mothers practiced activities at home)* *Challenges:* 'Sometimes the play and language activities are difficult if some babies are crying or too tired.' *(difficult to manage session when babies are tired)* **Toys and Materials** *Enablers:* 'Yes, I lent toys even though they taught us how to make books; we lend books, blocks, everything.' *(toys were loaned to mothers)* *Challenges: '*The blocks were too heavy for babies to manage them.' *(toys were difficult to use)* **Collaborative approach** *Enablers:* 'Tutor was helping me during the group sessions, I felt supported, if I was doing something wrong, she would not judge me, she would help me instead.' *(FAMI mothers felt supported by tutors)* 'With this curriculum it's easy to create an environment to welcome everyone.' *(positive environment)* *Challenges:* 'Mothers were shy at the beginning and it was hard to manage that. Now they are more willing to participate. *(difficulty using new methodology initially)*	**Curriculum** *Enablers*: 'In the sessions, moms were communicating with their children, and playing with them.' *(mothers do the activities with their babies)* 'FAMI mothers used to say: "the curriculum helped us to organize the methodology, the only thing we had to do was to read and do.' *(FAMIs find the curriculum easy to use)* *Challenges:* 'Some FAMIs struggled to manage the group; they were not used to manage the group while doing activities, they lose the control easily.' *(FAMIs insufficiently skilled)* **Toys and materials** *Enablers*: 'So, there was a commitment from mothers and FAMIs to make the toys.' (*FAMIs and mothers make toys)* *Challenges:* 'FAMI mothers didn't want to lose the books. The blocks were the easiest to replace, they lend them a little easier, but others like puzzles, they didn't lend them.' *(FAMIs did not lend toys)* **Collaborative approach** *Challenges:* 'It was hard for them to sit at the same level as the mothers and babies, and to let the mothers do the activities with their children. It was hard for them to do all these things' *(difficulty using participatory methods initially)*
Effectiveness		

Benefits to beneficiary mothers ‘Sharing and understanding our children more, the FAMI taught me to be tolerant. I learned to be tolerant with my daughter.’ *(Learn to understand the baby and be more tolerant)* ‘Well, I have learned to play and talk with my baby. I’ve learned to take time with my children.’ *(learn to play with baby)* **Benefits to babies** ‘She learns very fast, I think it's because of the activities we've done here.' *(learn new things and learn quickly)* ‘He is super active, he plays a lot, has fun with the things we do here. For him this was very useful.’ *(clever and active)* **Benefits to families** ‘Since I brought the toys all my children play together, they got closer to each other.’ *(better family relationships)* ‘My baby and her father play more because he saw me doing the activities. Now he sings the songs and he helps more with the baby. My husband and my older child got more involved.’ *(fathers more involved)*	**Benefits to beneficiary mothers** ‘Mothers are not hitting children anymore. They used to scream at babies, now they realised that it’s easier to treat them well.’ *(less harsh punishment)* ‘Mothers are no longer afraid to hug their children, praise them, and talk to them.’ *(use more positive parenting practices)* **Benefits to babies** ‘Children are cleverer because they learn more, they are more active and also, talk more.’ *(learn more/more active)* ‘The progress that children have made in their development is huge. They are very active now, they are happier.’’ *(learn more/more active)* **Benefits to families** ‘Fathers started making the toys and then started playing with their children. Fathers, mothers and children have strengthened their bonds.’ *(fathers more involved)* **Benefits to FAMI mothers** ‘I can see what they learned from one month to the next and now I can follow their progress.’ *(can track children’s progress)* ‘At the beginning I wasn’t sure if what I was teaching was appropriate, now I am sure it is appropriate, and I feel more confident.’ *(FAMIs feel more confident)*	**Benefits to beneficiary mothers** ‘Mothers understood the importance of playing with their babies. That was very nice with the moms, to see that breakthrough.’ *(mothers talk and play more with babies)* **Benefits to babies** ‘I see the progress of the babies; now, and they laugh, speak and run around the room during the sessions.’ *(babies more active)* **Benefits to FAMI mothers** ‘They felt more confident at the end of the intervention and that helped them a lot to have a good performance in the group session.’ *(FAMIs’ increased confidence)* ‘They started liking what they were doing.’ *(FAMIs enjoy their work)* **Benefits to tutors** ‘The methodology that was used - I'm trying to apply it also in my life: to recognize and praise the achievements of other people.’ *(tutors apply skills to personal life)* ‘I learn to deal with situations, to organise things, sometimes we had to be resourceful, for example to make the toys.’ *(tutors earn to be resourceful)*

Table 5. Evidence of Beneficiary Mothers and FAMI Mothers' perspectives of home visits and group sessions

Beneficiary Mothers (n=62)	FAMI mothers (n=40)
Home visits	
Pros *Babies and mothers concentrate more (16)* 'The home visits are better because it is more private, and we can concentrate better' *More personalized (13)* 'The home visit is more useful because FAMI could see what my baby already knew and explain another activity.' *Feel more comfortable (6)* 'My baby feels more comfortable doing the activities at home than in the FAMI because he is used to home.' *More fun (5)* 'The Home visit is more fun because at the end of the activities you could chat and laugh with the FAMI' *Other members of the family get involved (5)* 'I like more the home visits because all the family get involved and we are all together.' *Do not need to travel /move from house (5)* 'I like the home visits because we don't need to go out.' *More support from the FAMI (4)* 'In the home visits FAMI gives me more support and advises more.'	**Pros** *More personalized (10)* 'An advantage is that you can do personalized job and you get to know the family.' *Less interruptions (4)* 'Children can concentrate better at home because there are no other babies around, so it is easier to work with them.' *Involve other members of the family (6)* 'I also like going out to visit. I can work with the family and the father plays with the child.' *Mothers and FAMIs feel more comfortable (3)* 'When I go the mothers' homes we can talk more comfortably, and they can ask more private questions.' *FAMI can cover additional topics (2)* 'You can also work other topics like the home environment and accidents prevention.' **Cons** *Long distance trips (3)* 'A disadvantage is that you have to walk a lot and the mothers sometimes don't let you go in the house.' *More distraction* (5) 'During the visits sometimes, the husband arrived or the older child or someone else, there was always interruption.' *Mothers/babies do not have the opportunity to interact (2)* 'In the home visits they don't have the opportunity to share.'
Group sessions	
Pros *Feel comfortable in the group sessions (43)* 'I felt very comfortable, since my FAMI has always listened to us and has never said we have to do this, we have to do that, but she always asked. It was very nice to be there.' *Babies interact with other children (35)* 'The group sessions were so good because we could see other children.' *Share with others (34)* 'I like to come here to do something different, it is like a special time. I like the meetings because among the topics you can share things about what you've learned with other mothers.' *More fun (30)* 'The groups are more fun because we are all together with the children… We participate more, we communicate more.' **Cons** *Mothers feel shy in the group session (11)* 'Sometimes you are afraid to speak, you can't find the words. *Long distance (1)* 'The disadvantage of coming to the group sessions is that I have to walk a very long distance.'	**Pros** *Babies and mothers share with others (24)* 'I think group sessions are more useful because mothers and children get to know each other and all together they learn more.' *More fun (20)* 'The group session was more fun because mothers were all together and they could learn from each other.' *FAMI feels more comfortable (2)* 'In group sessions I feel more comfortable because I have more space it is my safety place.' **Cons** *Difficulties managing the group (7)* 'In the session you have to manage time and you can't give enough time to each mom and child.' 'The disadvantage is that the group is big, and babies get distracted and interrupt the activities.' *Mothers have to travel long distances (2)* 'The disadvantage is that mothers had to travel long distances to the place where we were to carry out the group session.' *More work (1)* 'In the group sessions I have to work and prepare more: I have to be aware of everyone, the mothers of the babies, the toys, while the visits I can concentrate more on the family.
Preference for group sessions or home visits	
Prefer group sessions: 31 (50%) Prefer home visits: 9 (15%) Like group sessions and home visits equally: 22 (35%)	Prefer group sessions: 10 (24%) Prefer home visits 8 (20%) Like group sessions and home visits equally: 22 (55%)

The numbers in parenthesis indicate the number of participants who mentioned each subtheme.