BMJ Global Health

'Grandmother, aren't you going to sing for us?' Current childcare practices and caregivers' perceptions of and receptivity to early childhood development activities in rural Burkina Faso

Jennifer Hollowell,[1] Mari Dumbaugh,[2] Mireille Belem,[3] Sylvain Kousse,[3] Tessa Swigart,[1] Chantal Korsaga,[3] Pokiandi Solange Lankoande,[3] Kokovi Hogban Lawson,[3] Zelee Hill[4]

To cite: Hollowell J, Dumbaugh M, Belem M, *et al*. '*Grandmother, aren't you going to sing for us?*' Current childcare practices and caregivers' perceptions of and receptivity to early childhood development activities in rural Burkina Faso. *BMJ Glob Health* 2019;**4**:e001233. doi:10.1136/bmjgh-2018-001233

Handling editor Stephanie M Topp

► Additional material is published online only. To view please visit the journal online (http://dx.doi.org/10.1136/bmjgh-2018-001233).

Received 17 October 2018
Revised 3 February 2019
Accepted 15 February 2019

For numbered affiliations see end of article.

Correspondence to
Dr Jennifer Hollowell; jennifer.hollowell@developmentmedia.net

ABSTRACT

Introduction Effective stimulation and responsive caregiving during the first 2 years is crucial for children's development. By age 3–4 years, over 40% of children in sub-Saharan Africa fail to meet basic cognitive or socioemotional milestones, but there are limited data on parenting and childcare practices. This study, conducted to inform the design of a mass media intervention, explored practices, perceptions, motivators and obstacles to childhood development-related practices among parents and caregivers of children aged 0–2 years in rural Burkina Faso.

Methods We performed two rounds of six focus groups with 41 informants in two villages, using an adapted version of the Trials of Improved Practices methodology. These first explored beliefs and practices, then introduced participants to the principles and benefits of early childhood development (ECD) and provided illustrative examples of three practices (interactive ways of talking, playing and praising) to try with their children. One week later, further discussions explored participants' experiences and reactions. Data were analysed inductively using thematic content analysis.

Results Existing activities with young children were predominantly instructive with limited responsive interaction and stimulation. Participants were receptive to the practices introduced, noted positive changes in their children when they adopted these practices and found engagement with children personally rewarding.

Conclusion Interactive, stimulating activities with young children did not appear to be widespread in the study area, but caregivers were receptive to information about the importance of early stimulation for children's development. ECD messages should be tailored to the local sociocultural context and consider time limitations.

Key questions

What is already known?

- Lack of stimulation and responsive caregiving during a child's early years can have long-term detrimental effects on health, educational achievement and economic prosperity throughout the life course.
- Little is known about parenting and child care beliefs and practices in sub-Saharan Africa, nor the motivation and obstacles to conducting early childhood development (ECD) practices.

What are the new findings?

- Caregivers currently engage in some ECD-related activities, but these are often instructive in nature, with limited responsive interaction or stimulation.
- Parents and caregivers responded positively to introducing more interactive and stimulating activities into their child's routine, illustrated through a radio format, saw positive changes in their children when they adopted these behaviours and found engagement personally rewarding.

What do the new findings imply?

- Caregivers are motivated to help their children succeed and are receptive to messages about the need for interactive stimulation.
- Interventions need to be carefully tailored to the local sociocultural context and promote activities that fit the daily routines of the intended recipients.

INTRODUCTION

Effective interaction, stimulation and responsive caregiving during a child's first years play a key role in brain development affecting cognition, motor skills and overall neurodevelopment. At this time, suboptimal parental interactions and poor nutrition can have long-term detrimental effects on health, educational achievement and economic prosperity.[1 2]

Around 250 million (43%) children worldwide are at risk of not reaching their developmental potential.[3] Recent research suggests that by the age of 3–4 years, over 40% of children in sub-Saharan Africa (SSA) fail to meet basic cognitive or socioemotional milestones.[4] Despite this there are limited data on parenting and childcare beliefs and practices in SSA. Much of what we know is derived from the early childhood development (ECD) questions added to the Unicef Multiple Indicator Cluster Surveys (MICS) in 2009[5–7] and some qualitative data from ethnographic studies.[8–12] MICS data for countries in West and Central Africa indicate relatively low levels of adult, especially fathers', support for early learning and limited access to books and playthings compared with other low/middle-income countries (LMICs).[13] The limited available data on household childcare practices in Burkina Faso indicate similarly low levels of stimulation in the early years[5 14 15] and limited access to play and other early learning resources at home.[16] For example, 19% of mothers and 6% of fathers in Burkina Faso named, counted and drew with their child in the past 3 days compared with 44% and 17% respectively across all 39 LMICs included in MICS third round (2005–2010).[14]

Effective interventions exist to improve developmental outcomes by improving stimulation and responsive caregiving[17] and the benefits of well-targeted early interventions can still be measured many years later.[18] These interventions commonly employ home visits or group meetings by community health workers/paraprofessionals, and there are concerns about the ability of programmes to maintain quality when scaled up,[19] with limited rigorous evaluation at scale.[20] Determining who can effectively deliver ECD interventions, and whether interventions can be taken to scale with sufficient integrity and fidelity, are key research priorities.[21] To date there has been little focus beyond face-to-face approaches focusing on the mother–child dyad. This is despite calls to engage the wider family[22 23]and to use mass media.[24] Mass media is a promising approach for behaviour change, as demonstrated by a recent randomised controlled trial (RCT) of a radio campaign that found a media campaign could be cost-effective mechanisms to deliver a health-related behaviour change intervention,[25–27] but such an approach has not been tested for ECD.[25–27] Radio can be an effective way to reach a large rural audience in countries such as Burkina Faso, where around 60% of rural women listen regularly to the radio.[27] The qualitative results reported here are from the initial stages of a mixed-methods research programme designed to explore the feasibility of promoting ECD-related parenting behaviours in a radio campaign and to support the development of an intervention that could potentially be tested in an RCT. The aim of this formative qualitative study was to gain insight into current practices, perceptions, motivators and obstacles to ECD-related practices and behaviours among caregivers of children aged 0–2 years in rural Burkina Faso.

METHODS

Study design

A main objective of this qualitative research was to understand the receptivity of local populations to anticipated intervention messages, behaviours and approaches. Therefore, we performed focus group discussions (FGD) to see how participants perceived and discussed ECD principles and behaviours and their interactions within the context and norms of a group setting. The FGDs were based on an adapted *Trials of Improved Practices* (TIPS) methodology.[28] The TIPS approach is a formative research technique, usually employed during the intervention development phase of programmes, which focuses on behaviour and what people do, rather than on knowledge and beliefs, and usually involves multiple visits to study participants.[28] We adapted the TIPS methodology to include two rounds of FGDs, with the same participants each attending two focus groups (FG) held 1 week apart. During the first round, facilitators asked participants about caregiving norms for children aged 0–2 years in their local communities. They then briefly introduced the general principles of ECD and benefits of engaging in ECD activities for children aged 0–2 years and offered examples of three specific ECD activities: deliberate and interactive ways of talking with, playing with and praising children. We also played a radio sketch delivered in the local language (Mouré), developed by the local research team. The sketch used a dramatised short story format (as used in previous campaigns)[29 30] and portrayed a mother engaged in ECD activities with her child (playing with, naming and counting the child's toes) interspersed with the mother chatting to a neighbour about the activities.

At the end of the first round of FGDs all participants were asked to consciously try out one or more of the behaviours that had been presented and discussed in the FG—interactive ways of talking, playing with and/or praising their children—over the course of the next week and to give feedback on their experiences in a follow-up FGD 1 week later. To reduce social desirability bias in participant responses, facilitators repeatedly emphasised that participants were not being 'tested' on their ability to implement behaviours; rather, researchers were interested in participants' perceptions of the practices.

Data were collected in May 2018 by a Burkinabe team of male and female researchers, each with between 6 and 10 years of qualitative research experience, and all with a minimum of a bachelor's degree (SK, CK, PSL, KHL), headed by a masters-level Burkinabe qualitative researcher with 15 years of experience (MB). An international, PhD-level qualitative researcher fluent in French with 6 years of qualitative research experience in West (MD) supervised fieldwork, and provided the team with 6 days of study-specific training prior to data collection. This included all researchers leading or observing a pilot FG using the study FG guide. FGDs were conducted in Mouré by a facilitator (male for fathers, female for mothers/grandmothers) and a note taker. Facilitators

explained their credentials and reasons for conducting the study to the participants before beginning FGDs. Researchers used a semistructured guide piloted with four FGs and refined before data collection (online supplementary file 1). The guide included statements about relevant ECD activities modified from training materials used in an ECD programme in Guatemala,[31 32] which were read to participants for feedback (see FG guide, online supplementary file 1).

Location and participant selection

FGDs were conducted in two villages, located 17 km apart, in the Plateau-Central Region of the country. The villages were chosen based on their proximity to Ouagadougou, already-existing contacts in the villages and adequate numbers of target populations residing in the villages. The villages were without electricity and running water and roads to essential services (health, education, commerce) were undeveloped. The main income-generating activity was agriculture.

Participants were selected purposively with assistance from village leaders, who were asked to identify a diverse group of caretakers who were 18 years or older, namely mothers, fathers and grandmothers of children aged 0–2 years, without any specification for religion or ethnicity. Grandmothers living in the same households as their grandchildren were included as primary caretakers based on evidence that they are key influencers in child raising.[33] The few participants invited by community leaders with children aged over 2 years were not turned away from first-round FGDs. However, participants with much older children were not asked back for second-round FGDs. Participants were asked to practise the activities with their youngest child, but discussion suggested that in some cases participants additionally practised these activities with older children. FGDs lasted 40–150 min and took place in neutral locations with reasonable privacy. Participants were interviewed in separate FGs of six to seven people, stratified by participant type: mothers, fathers and grandmothers. We conducted a total of 12 FGDs with 41 unique participants (75 interactions total between the two rounds of data collection) (table 1). The number of FGDs was determined by logistical constraints and suggestions from methodological literature exploring qualitative data saturation.[34] In the Results section, first-round FGDs are labelled as 'A' and second-round discussions, after participants tried ECD activities in their homes for 1 week, as 'B'.

Data analysis

FGDs were audio recorded and translated and transcribed into French by researchers and external contractors fluent in Mouré. Researchers (MD, MB, SK, CK, PSL, KHL) first established 'sensitizing concepts'[35] from original research questions to guide the first round of inductive analysis. Next, they established a first set of descriptive and interpretive themes by analysing three FGDs. The principal analysts (MB, SK) then applied thematic content analysis to all FGDs, adjusting, combining and adding themes as inductive analysis progressed (online supplementary file 2). They did this by manually coding participant responses from the transcripts and grouping them thematically. MD independently analysed half of the FGDs for analytical triangulation using Atlas.ti software[36]; the analysis team discussed any differences in interpretation until consensus was reached. MD translated quotes for this article from French to English.

Table 1 Participant demographic characteristics

	Mothers	Fathers	Grandmothers
Number of participants (n=41)	21	13	7
Age of participants			
18–24	8	1	0
25–35	5	3	0
36–45	7	5	0
46–55	1	4	2
55+	0	0	3
Unknown	0	0	2
Parity			
1	6	1	0
2–3	8	7	2
4–7	7	4	4
8–10	0	1	1
Age of participants' youngest child/grandchild* (months)			
0–6	5	2	0
7–12	2	6	5
13–18	3	1	0
19–24	7	1	1
24+	4	3	1
Marital status			
Married, monogamous	20	12	6
Married, polygamous	1	1	1

*Children's ages as reported by participants.

Ethics

We received informed written consent from all participants and verbal consent to audio record discussions before the start of each FGD. Participants received salt and sugar as compensation for their time. There was minimal loss to follow-up between research visits except for a group of four fathers who were called away to an urgent village matter.

RESULTS

Analysis revealed a number of descriptive and interpretive themes allowing researchers to evaluate the feasibility of

introducing a scaled-up ECD informational intervention in this and similar contexts.

Young children's social context

It was widely agreed that children's primary caregiver for the first years of life is their mother with many participants citing breast feeding as the obvious facilitating factor. However, each member of the family plays their own role in childcare and rearing. Mothers tended to acknowledge yet minimise the role of fathers in *direct* care; fathers themselves similarly defined their 'important' role in raising young children in terms of provision of material needs such as food and medical care. Both women and men affirmed that though men's time spent with children is limited, men do sometimes help with childcare 'when they have time' usually in the evenings so that women can 'attend to their work.' Many fathers desired to spend more time engaging with children.

The clear separation of childrearing tasks between mothers and fathers—caregiving versus material provision—related to local gendered divisions of household roles and labour. Mothers' sociocultural duties as wives physically tied them to the house; fathers' income-generating activities, however, often kept them away from the house, limiting their time and ability to perform direct childcare tasks.

Participants widely acknowledged that caregivers change with a child's age. For example, when a child 'no longer has to be carried on a [mother's] back' (generally agreed to be around 1 year) they would spend more time away from their mother either with a grandmother, cowife, older siblings or on occasion taken by fathers to seek medical care or go to the shops. Grandmothers in particular played a central role in caregiving, watching children if mothers had to leave the house and showing first-time mothers how to care for young babies. Other participants mentioned that 'grandparents' in general took on caregiving duties suggesting that grandfathers are also sometimes implicated. Table 2 contains illustrative quotes related to caregivers and how these change over time.

Existing ECD practices

During the first FGDs all participants described some talking with, playing with and praising their young children. Some participants recounted stimulating, interactive activities with children, which exhibited ECD principles of active interaction (subtheme A in table 3). However, our analysis and participants' own reflections during the second round of FGDs confirmed that most caregiver activities with young children prior to the first TIPS sessions were predominantly instructive, and not necessarily involving responsive interaction and stimulation. For example, participants described giving advice or reprimanding children, rather than *interacting/conversing with* their child (subtheme B in table 3).

Receptivity to and perceptions of ECD activities

All participants expressed an overall positive perception of ECD principles and activities both before and after they were asked to try them at home, receptive to the fact that engaging in these activities would benefit their children. Participants often used observations and shared analogies from their own experiences to explain their perceptions of the process and effects of early learning. In this way, participants validated the positive benefits of ECD cited by facilitators by relating new ECD information shared in FGDs to their own lives (subthemes A and B in table 4).

While many caregivers stated that children younger than 2 years 'forget' what they learn, caregivers also saw the value of repeating activities with children, so they would adopt good 'habits' and learn. After facilitators probed this seeming contradiction, participants consistently explained that ECD activities 'awaken' a young child's spirit or intellect. Therefore, even if young children 'forget' the specifics of early interactions, these repetitive interactions create necessary foundations on which the child will continue to learn and grow (subtheme C in table 4).

Despite their general understanding of the value of ECD best practices, throughout discussions most participants continued to link the benefits of ECD activities to learning through instruction—specific motor or language skills (walking, learning particular words), sociocultural/moral values (how to be a good person) and/or tangible success at school. For example, while some participants acknowledged that praise can generally encourage and instil confidence in children, most participants perceived praising (and reprimanding) children as serving to demonstrate the difference between positive and negative behaviours, especially related to completing household tasks or learning a practical skill (subtheme D in table 4).

Motivations to engage in ECD activities

All participants communicated strong motivations to engage with their children through different ECD activities both during and after our study (subtheme A in table 5). Most frequently parents referenced love for their children, their desire to make their children happy, the positive reactions of children when they implemented activities and to help their children 'succeed' in life as motivations. 'Success' was usually related to intellect-enhancing competencies for school achievement and socialisation to become an upstanding community member and citizen. Though participants reported varying degrees and frequencies of interactions with their children between the FGD rounds, no participant reported not trying/being able to implement any ECD activities during the study.

Many participants, notably many fathers, reported noticeable changes take place in both themselves and their children, including young, non-verbal children, after engaging in ECD activities over even a short period.

Table 2 Young children's social context

Subtheme	Concept	Quotes
A. Gendered divisions in parental caregiving	Mothers as primary caregivers	Facilitator: *Why do mothers take care of children aged 0–2 most often? Participant: Because it's mothers who breastfeed. It's mothers who have the most important thing for the child: milk*. (Grandmother, age unknown, FGD3A) *The reason women are more often the primary caregivers is because women don't go out. Men travel a lot. It's you, the mother, who takes care of the child until his father returns…it's like the child belongs more to us than to his father. It's because we are always there*. (Mother, 25 years, 3 children, P1:FGD5A)
	Fathers provide for material needs	*…If the child is sick then [the father] pays to send us to the health center. But I don't really see what the role of the Papa is. Aside from the fact that, for example, the father sits down, he and the child talk [when the father] isn't too busy, then you can give the child to him just during the time you need to do something. Then [you have to] come back and take the child. I don't really see what the role of the Papa is*. (Mother, 38 years, 5 children, P3:FGD1A) *The father does a lot! Regarding the child's health for example, if [the father] finds the child is sickly, the father takes care of the child. It could turn out the mother doesn't have enough milk…[so] the father runs to the paediatricians to find what can help the mother to have milk for the baby or even to the hospital for formula*. (Father, 52 years, 10 children, P3:FGD2A)
B. Caregiver roles change with children's age	Fathers' role	P3: *…if the child is sick while you're out, the father can take the child by himself to the health centre because the child doesn't need to be carried on the father's back [because] he is a bit bigger. Or even when the father wants to go out, he can take the child on his walks…* P4: *That allows the mother to finish her tasks*. P2: *But when the child is…small it's not possible [for the father to take him out]. It's only when the child passes two years that it's possible…it is easier to help each other out when the baby isn't small. When he is small there isn't anyone but the mothers to [take care of him]*. (Mothers, P3: 38 years, 5 children; P4: 37 years, 5 children; P2: 44 years, 3 children, FGD1A)
	Grandmothers' role	*…if it's a first-time mother, she can't take care of a newborn very well. It's the grandmother who takes care of the baby, bathes him and shows the mother how to breastfeed him, how to recognize when he is sick…it's around the fourth month that the mother can take care of the baby well*. (Grandmother, 60 years, 3 children, P2:FGD3A)
	Roles of siblings, co-wives	P1: *[Caregivers] change. For example, if the child has older siblings, big brothers or big sisters, they can watch him while you go somewhere…* P4: *When you have a co-wife, you can trust her with the child while you go somewhere, until you come back*. *P3: If there is an older child who you trust, you can leave him the [younger] child to take care of while you do something…* (Mothers, P1: 37 years, 5 children; P4: 37 years, 5 children; P3: 38 years, 5 children; FGD1A)

FGD, focus group discussion.

But, for some this increased engagement was not discussed in child development terms but instead for the amusement of the child. For example, in first-round FGDs some fathers initially noted that *giving* children store-bought games makes them happy and occupies them while their mothers are trying to work. This view echoed perceptions of ECD activities as directing the child's behaviour rather than responsive interaction. However, in second-round FGDs, participants, especially fathers, mentioned more intentional engaged play with children such as playing ball *with* their child. While describing engaged play, these interactions were still framed as amusing the child rather than as an opportunity to stimulate the child and help them learn.

Participants highlighted that external validation of ECD messages—in this case the research team's visits to the villages—added to their understanding of the importance of ECD activities for their children thereby motivating them to continue engaging with children in future. Finally, while acknowledging that some people may see ECD activities as strange, such as talking to a child who cannot yet talk, those few opinions would not deter caregivers who were aware of the benefits of ECD. In fact, participants said they would serve as examples to others in the community to adopt ECD activities.

Obstacles to engaging in ECD activities

The most widely mentioned obstacle to engaging in ECD activities was limited time. Daily responsibilities generally kept caregivers occupied during the day and tired them by night. Gendered divisions of labour necessarily put the responsibility of direct interactions of childrearing on women. Gendered strains on time are less discriminatory during the rainy season however when most able community members, including grandparents, are heavily engaged in agricultural activities and have very limited time. Some fathers noted that the positive or negative 'understanding' or 'harmony' between spouses

Table 3 Existing ECD practices

Subtheme	Concept	Quotes
A. Caregivers engaging in stimulating, interactive activities	Talk	*Often when you are with your baby [and] you are alone, you talk to him, you tell him 'Ah, you have to nurse quickly because I have to get up to make the meal, papa is going to come eat!' …Or you can ask [your baby] 'What are we making today?' The child cannot respond but you talk to him [anyways]*. (Mother, 43 years, 6 children, P4:FGD1A)
	Play	*We had a string and the children jumped to go to the other side [of the string] and we counted the jumps…Then I asked the child, '…That makes how many jumps for you?'* (Mother, 38 years, 5 children, P3:FGD1A) *In the past when we play[ed] with our children we didn't look for games but we had types of games that we played with children for their intelligence…if you don't have work or their mothers are in the kitchen…you make them sit down…and you take a rock…and… you choose one of [the children]…and you put the rock in their hand and you ask one of them to guess where the rock is. All of those are our traditional games that we do to help [our] grandchildren*. (Grandmother, 60 years, 3 children, P1:FGD3B)
B. Learning through instruction/ nature of existing interactions and activities	Talk	*…we didn't [talk to children] in a special way [like you explained]. But we say to a child, for example, 'Your nose is running, go blow your nose.'* (Grandmother, 47 years, 5 children, P7:FGD3A) *From time to time we talk with our babies. For example, 'Baby come, come towards Mama.'* (Father, 46 years, 7 children, P1:FGD2A)
	Play	*We played with our children, but we didn't have that [intention] in mind, but since you came to talk with us, that enlightened us, it allowed us to pay attention to what we are doing. But before we didn't realize, we just did it, but now you see that the work is good*. (Mother, 27 years, 3 children, P1:FGD5B) *You flatter the child if he is crying. You look for something, like an object, to give him and he plays with it*. (Father, age unknown, FGD2A)

ECD, early childhood development; FGD, focus group discussion.

could also affect both parents' and children's desire to play. Another potential obstacle was some participants' belief in the innate intelligence or predestination of children: certain children are born smart or with a 'good' character and others not which could impact their ability to succeed in ECD activities and/or already determined 'who they would become' in future. Multiple participants reported that they simply did not know about the benefits of engaging with young children in intentional ways before FGDs, which suggests that educational campaigns could be effective in increasing the practice of ECD activities with young children. The only specific ECD activity some participants approached with caution was praising a child: too much praise, especially in front of other children, could have a negative effect. Illustrative quotes related to these obstacles are in subtheme B in table 5.

DISCUSSION

This study qualitatively investigated current ECD practices in Burkina Faso, focusing on praising, talking to and playing with children from birth through the first 2 years. The purpose was to gain insight into how to promote stimulating caregiver–child interactions in a mass media campaign. Findings are discussed below in light of other available evidence on parenting and childcare practices in SSA.

Existing research suggests that the instructive caregiver–child communication that was reported is also common in other settings. A qualitative study of carers of children aged 0–2 years in Malawi similarly saw that caregiver–child communications tended to be one way and that participants were unfamiliar with language surrounding the concept of responsiveness.[37] Consistent with our findings, caregivers in Malawi lacked knowledge about the importance of talking to children from an early age and of responsive interactions, both verbal and non-verbal, with babies.[37] Harkness and colleagues also found that in both West and East Africa parents typically do not have extended conversations with their young children and that, as we found in Burkina Faso, interactions tend to be directive and concerned with training children to carry out tasks.[9 10]

Gladstone's study revealed that parent-initiated play in Malawi tended to be physical—although it could also include singing and telling stories—and parents saw these physical activities as a way of making their child stronger and healthier.[37] This emphasis on physical play is consistent with studies from elsewhere in West Africa showing that parents tend to place importance on children achieving physical milestones in the early years.[9] Our findings did not suggest such a strong emphasis on physical play, but it is possible that our discussion guide tended to emphasise play with toys and other objects over physical play. Our findings indicated that play was generally seen as a normal and important part of childhood. While some participants engaged in interactive, stimulating play activities it appeared more typical in our setting for busy parents to use playthings as a way of occupying their children and not as an opportunity to interact with or stimulate their children. Grandmothers seem to have more time away from household/income-generating tasks during the day than mothers or fathers, and

Table 4 Receptivity to and perceptions of ECD activities

Subtheme	Concept	Quotes
A. Positive perceptions of ECD		Facilitator: *What did you think of these activities [suggested in the radio spot]?* P7*: They're good. We are even going to put them into practice. We say that 'knowledge is acquired at a friend's house!'* P4: *…if you really [implement these activities], the child will succeed*. (Grandmothers, 47 years, 5 children; 56 years, 5 children; 50 years, 5 children, FGD3A)
B. Citing lived experiences and analogies to understand and validate new ECD information		*…for example, there are children who sleep in the dark and there are others who cannot sleep without light. It all depends on what you are used to from the first moments of your life*. (Mother, 44 years, 3 children, P2:FGD1A) *It's true because what the child learns can impact his life…we see that even in health services. Before, when you gave birth, the midwives would bring the child [and] wash him before bringing him to you. But now when you give birth, they take the child and put him on your chest. It's because that creates connections; it's because that actually has positive effects and it's very important for the child beginning from his birth. So, this information [you are sharing] is true*. (Mother, 38 years, 5 children, P7:FGD1A)
C. Young children's learning	Young children 'forget', repetition is essential	Facilitator: *Do you think that learning in the first two years of life before a child can walk or talk can have an influence later in his life?* *Very small, a child learns, but not a lot. You must always remind him of things.* (Grandmother, 56 years, 5 children, P6:FGD3A) *It all depends. Even very young children learn. They learn habits*. (Mother, 37 years, 5 children, P1:FGD1A)
	ECD activities 'awaken' intelligence	*…a child is like a peanut, if you shell it there is something inside…A child is awakened like that, you remove the outer layers to his intelligence*. (Grandmother, 60 years, 5 children, P4:FGD3B)
D. Participants' continued association of ECD aims and activities with learning through instruction	Speech/motor skills	*It's like you said: from the time [a child] is born, you have to teach him to speak. He will continue with everything you teach him during his childhood*. (Father, 46 years, 7 children, P1:FGD2A)
	Household tasks	*…when he goes to draw water at the fountain and he brings two cans today and you show your appreciation…tomorrow he will bring three or four. He will always try harder so that you say 'Wow! You really did it, you did well, you are strong, you do things well!' The child will always look to do what he did well so that you always praise him, …so that you are always happy with him*. (Mother, 43 years, 6 children, P5:FGD1A)
	Intelligence/success at school	Facilitator: *What do you think of these suggested activities [demonstrated in the radio spot]?* *R1: They're good…[the radio actor] does [the activities] so the child's intelligence develops*. R7: *[those activities] make kids smart at school*. (Fathers, 46 years, 7 children; 48 years, 3 children, FGD2A)

ECD, early childhood development; FGD, focus group discussion.

mentioned imaginative games from 'the past' they would play with children. Grandmothers could, therefore, be a valuable resource for incorporating more interactive, low-cost play into children's days.

We found that caregivers do already praise children, particularly for tasks well done. However, participants expressed some reservations about the benefits of praising children, especially in front of other children. In addition, fathers tended to be seen as having a disciplinary role. This could reflect local cultural values and norms that attach importance to socialisation, cooperation and acceptance of hierarchy.[11] These concepts contrast with the Western cultural emphasis on individualism and self-actualisation, where a child's cognitive achievements may be considered praiseworthy, suggesting that while our participants were open to the benefits of praising their children, ECD messages around praise should be tailored to local cultural values.[38]

Lack of time, particularly for fathers but also affecting other caregivers, especially during seasonal agricultural work, was a barrier to engaging in some ECD activities. This was similarly found to be a barrier in Malawi.[37] Fathers in many West African cultures are not traditionally involved in routine care of children, particularly during infancy.[39] Yet, similar to findings elsewhere, our results suggested that fathers considered that they had an important co-parenting role,[40] were willing to engage more with their children[41] and found it personally rewarding when they did so. Fathers may have more discretionary time than mothers at the end of the working day when they may 'watch' the child while the mother is engaged in domestic tasks. Since greater paternal involvement in stimulating activities is associated with improved child development in LMICs,[42] a greater focus on fathers' engagement in stimulating activities with their children might be effective in introducing more ECD activities

Table 5 Motivations and obstacles to engaging in ECD activities

Subtheme	Concept	Quotes
A. Motivations to engage in ECD activities	Noticeable changes after ECD activities	*Before…the children played together and we…talked while watching them. But [since your first visit], we all sit together, and we play with [the children]. There is more happiness than before. Since your advice, we are closer, we are happier. What they don't know, we show them, and they too have things they do, and we also learn*. (Mother, 43 years, 6 children, P5:FGD1B) *…as fathers, there is a change. Before we said that to sit…with a child to have fun, it would make a fool out of us, it is pointless!…we did [interact with kids] even if it wasn't sufficient. But since your arrival it changed. Before it was embarrassing to sit and talk with your baby*. (Father, 54 years, 10 children, P2:FGD2B)
	Children's positive reactions to ECD activities	*Me, I tried [the activities] with my 9-month-old. I played with him, I also talked with him. And since I started that, when I come back [home] on my bike, my child crawls towards me. And it's because of the fact that I played with him.* (Father, 37 years, 2 children, P3:FGD6B) *I don't know about others but for me, [since our first discussion] it's true that we move around a lot but I at least tried so that [now] if the children see me they call 'Grandmother, aren't you going to sing for us?'* (Grandmother, 60 years, 3 children, P1:FGD3B)
	Love, desire to help child succeed in life	*It's [out of] love for the child, it's for his personal awakening, so that he will be more intelligent. It's especially [out of] love because if you don't love your child you are not going to [engage in these activities]*. (Grandmothers, ages unknown, FGD3A) *…now we know that [these activities] are important to make the child smart at school*. (Grandmother, 47 years, 5 children, P7:FGD3A) *We talk to him about good things, we teach him about family life…And that which will be useful in the future…so that he takes the right path, he will take care of his family, Papa and Mama, of his community and all of Burkina Faso because a child is not for a single individual, he is for the whole community*. (Father, 44 years, 4 children, P5:FGD2B)
	Validation of ECD messages	*[If] during your first visit and again today you assembled us…to discuss, it's because it's [for] something important…and the population, in seeing that, knows that it's to advise us and they already begin to appreciate [what you are saying] because [you came] to develop our village, our children and their future lives. Even the children who will be born later will benefit from what we learned for their well-being also*. (Grandmother, 56 years, 5 children, P6:FGD3A)
	Negative opinions of others will not deter ECD activities	*F: Do you think anyone in your house or in the community will find it strange or bad that you are talking to your baby who can't yet talk?* *[…]* *P: …To speak with children is good. Some [people] will find it is not good but others will envy us. Even if [one of those people] can't do [the activities] the fact that you do them, [the other person] could become inspired from [you] and try to do [the activities] with his children also*. (Father, age unknown, FGD2A)
B. Obstacles to engaging in ECD activities	Limited time	*If you leave your field and you come take care of a baby, that won't work. We don't have time because we take care of our families, the stability of the family. The family is structured like that, it's true. But you have to bring [the family] something to eat. If there isn't anything to eat in a family, it's a problem. So in this sense, we can't say that we are going to sit like this to take care of children as if we no longer have [another] caregiver to take care of the children. It's not possible*. (Father, 44 years, 4 children, P4:FGD2A) *Currently, we talk with [children] all the time but when work in the fields starts, it will no longer be possible*. (Grandmother, 50 years, 5 children, P4:FGD3A)
	Spousal (dis)-'harmony'	*When a child comes towards you and you are happy, that has an effect on the family. When you come home to your house and [the family] welcomes you warmly you yourself are happy and when a child tries to crawl to you to ask for someone to bring [the child] to you quickly and you take him in your arms to go for a short walk with him. But if you come back to your house and the welcome seems cold and the temperature of the courtyard is high [domestic disputes], honestly, it's not nice. Even when the child sees your face he will not even venture towards you*. (Father, 47 years, 5 children, P4:FGD2B)
	Innate intelligence/ predestination of certain children	*There is a saying we have…that says: 'Each child is born with his intelligence.'* (Grandmother, 47 years, 5 children, P7:FGD3A) *What I know is, if a baby comes into the world he comes with his character*. (Father, age unknown, FGD2B)
	Negative consequences of excessive praise	P2: *For example, if you have three children. One behaves but not the other two. If you praise the one who behaves well, the others are going to argue with him and lead him to misbehave*. P3: *In praising a child too much, you risk reverse results. That is to say that next time the child will maybe even react contrary to what you want of him*. (Mothers, 44 years, 3 children; 38 years, 5 children, FGD1A)

ECD, early childhood development; FGD, focus group discussion.

into the child's day and have a positive effect on overall development. However, although not mentioned by our participants, in parts of West Africa cultural taboos restrict fathers' relationships with their children until they start walking or talking.[39] Messages that both emphasise the importance of ECD activities as well as highlight

the benefits of a father's particular role in developing children's potential might be empowering for them to engage more with their children and at younger ages. Offering specific suggestions for ECD activities could similarly give all caregivers 'permission' to engage in a wider range of stimulating interactions.

When introduced to more interactive ways of talking to and playing with their children as part of the TIPS component of the research, the participants' initial responses suggested that they did not consider these activities as materially different from things they already did. However, after engaging in these activities at home for a week with more intention, the participants themselves noticed positive differences in their children's behaviour and in interactions with their children. Finding ways to convey the concept of responsive interaction, particularly with preverbal children, may be challenging. Yet the immediate positive feedback that parents experienced with their children when they engaged in these activities is an important motivator. Additionally, barriers to the adoption of some behaviours that are important for children's cognitive development can potentially be addressed by framing messages in the context of activities that the child will need to undertake in later life. For example, in rural Senegal where children need to learn to 'run errands', one early intervention project found that mothers could only be persuaded to name objects to their young babies by putting this in the context of errands.[9] Our participants also recounted interactions with children related to everyday tasks such as fetching water and agricultural work.

Overall, our findings suggested that participants were receptive to information on child development and advice on activities to help their children to develop, and they responded positively to the 'vignette' format of the radio spots used to stimulate discussion.

Strengths and limitations

This is one of the few studies to provide insights into ECD practices of rural mothers, fathers and grandparents in a low-income SSA country. Our use of an adapted version of the TIPS methodology was a particular strength as it allowed for a more profound exploration of the kinds of improved practices that the population will be the most motivated and willing to adopt. Although our specific conclusions are limited to the contexts in which we worked, the congruence of our findings with those of similar studies in SSA suggests that our findings may be more widely applicable. We focused on a limited range of activities because available evidence indicated that activities such as reading, counting and storytelling with young children were not common among our population (and illiteracy is high).[14] However, future research should incorporate a wider range of activities and positive disciplinary practices and could also benefit from discussions with other caregivers such as grandfathers and siblings. It is possible that findings were influenced by social desirability bias, that is, that participants responded to information and questions about ECD in a way they thought would be pleasing to researchers. However, as experienced researchers, our FGD facilitators took specific steps throughout data collection to limit desirability bias and the responses, enthusiasm and examples from participants appeared genuine.

CONCLUSION

Interactive, purposefully stimulating activities with young children do not appear to be widespread in rural families in Burkina Faso, but caregivers are receptive to information about the importance of early stimulation for children's development. There do not appear to be major barriers for carers to incorporate ECD activities into their daily routines. ECD messages should be carefully tailored to the local sociocultural context and should promote activities that fit well into the realities of rural families' lives. Fathers and grandmothers could potentially play a greater role in engaging in developmental activities with young children and expressed motivation to do so.

It appears to be possible to convey meaningful information about ECD practices using short, instructional statements combined with 1 min entertaining radio spots portraying ECD activities suggesting that further exploration of mass media as a mechanism to deliver ECD messages may be merited.

Author affiliations
[1]Development Media International CIC, London, UK
[2]Insight Impact Consulting, Chicago, Illinois, USA
[3]Develpment Media International, Ouagadougou, Burkina Faso
[4]Department of Epidemiology and Public Health, Institute for Global Health, University College London, London, UK

Acknowledgements We thank Gretchen Domek for providing materials from the Niños Sanos: Early Childhood Health and Development Program in Guatemala, and Odette Ky-Zerbo for her guidance on practical aspect of using the TIPS methodology.

Contributors JH, TS and ZH conceived the project. JH and TS designed the methodology and draft focus group guides, and MD refined them. CK, SK, PSL and KHL carried out the focus groups and MD, MB and SK carried out the data analysis with input from the other researchers involved. Focus groups and analysis were supervised by MD. JH drafted the manuscript introduction and discussion and MD drafted the methods and results, with input on all sections from TS and ZH. All authors provided input to the interpretation of findings and approved the final version of the manuscript.

Funding The study was funded by Dubai Cares.

Competing interests None declared.

Patient consent for publication Not required.

Ethics approval This study received ethical approval from the Ethical Committee for Health Research in the Burkina Faso Ministry of Health in September 2017 (reference number 2017-9-134).

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement Data sharing requests should be addressed to the corresponding author.

REFERENCES

1. Rao N, Sun J, Wong JMS. *Early childhood development and cognitive development in developing countries: a rigorous literature review*. University of Hong Kong, Faculty of Education, 2014.
2. Nahar B, Hamadani JD, Ahmed T, *et al*. Effects of psychosocial stimulation on growth and development of severely malnourished children in a nutrition unit in Bangladesh. *Eur J Clin Nutr* 2009;63:725–31.
3. Black MM, Walker SP, Fernald LCH, *et al*. Early childhood development coming of age: science through the life course. *Lancet* 2017;389:77–90.
4. McCoy DC, Peet ED, Ezzati M, *et al*. Early childhood developmental status in low- and middle-income countries: national, regional, and global prevalence estimates using predictive modeling. *PLoS Med* 2016;13:e1002034.
5. UNICEF. Inequities in early childhood development: what the data say 2012.
6. UNICEF. Multiple indicator cluster surveys. Available: http://mics.unicef.org/surveys
7. UNICEF. Development of the early childhood development index in MICS surveys. MICS methodological papers 2017.
8. Harkness S, Super CM. Why African children are so hard to test. *Ann N Y Acad Sci* 1977;285:326–31.
9. Harkness S, Super CM, Barry O, *et al*. Assessing the environment of children's learning: The developmental niche in Africa. In: Grigorenko EL, ed. *Multicultural psychoeducational assessment*, 2009: 133–55.
10. Harkness S, Super CM, Mavridis CJ. Culture and early childhood development. In: *Handbook of early childhood development research and its impact on global policy*, 2013: 142–60.
11. Keller H. Cultures of infancy. The foundation of developmental pathways. Proceedings from the 19th International Congress of the International Association for cross-cultural psychology 2009.
12. Super CM, Harkness S. The developmental niche: a conceptualization at the interface of child and culture. *Int J Behav Dev* 1986;9:545–69.
13. UNICEF. ECD Indicators. Multiple indicator cluster surveys. Fourth round (MICS4). Regional data analysis 2013.
14. Bornstein MH, Putnick DL. Mothers' and fathers' parenting practices with their DAUGTERS and sons in low- and middle-income countries. *Monogr Soc Res Child Dev* 2016;81:60–77.
15. Bornstein MH, Putnick DL, Lansford JE, *et al*. A developmental analysis of caregiving modalities across infancy in 38 low- and middle-income countries. *Child Dev* 2015;86:1571–87.
16. Prado EL, Abbeddou S, Yakes Jimenez E, *et al*. Lipid-based nutrient supplements plus malaria and diarrhea treatment increase infant development scores in a cluster-randomized trial in Burkina Faso. *J Nutr* 2015;146:814–22.
17. Engle PL, Fernald LCH, Alderman H, *et al*. Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. *Lancet* 2011;378:1339–53.
18. Young ME. Addressing and mitigating vulnerability across the life cycle: the case for investing in early childhood. 2014 United Nations human development report 2014.
19. Richter LM, Daelmans B, Lombardi J, *et al*. Investing in the foundation of sustainable development: pathways to scale up for early childhood development. *Lancet* 2017;389:103–18.
20. Tomlinson M. From surviving to thriving: what evidence is needed to move early child-development interventions to scale? *PLoS Med* 2018;15:e1002557.
21. Dua T, Tomlinson M, Tablante E, *et al*. Global research priorities to accelerate early child development in the sustainable development era. *Lancet Glob Health* 2016;4:e887–9.
22. Aboud FE, Yousafzai AK. Global health and development in early childhood. *Annu Rev Psychol* 2015;66:433–57.
23. Panter-Brick C, Burgess A, Eggerman M, *et al*. Practitioner review: Engaging fathers--recommendations for a game change in parenting interventions based on a systematic review of the global evidence. *J Child Psychol Psychiatry* 2014;55:1187–212.
24. World Health Organization, United Nations Children's Fund, World Bank Group. *Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential*. Geneva: World Heath Organization, 2018.
25. Murray J, Head R, Sarrassat S, *et al*. Modelling the effect of a mass radio campaign on child mortality using facility utilisation data and the Lives saved tool (LiST): findings from a cluster randomised trial in Burkina Faso. *BMJ Glob Health* 2018;3:e000808.
26. Kasteng F, Murray J, Cousens S, *et al*. Cost-effectiveness and economies of scale of a mass radio campaign to promote household life-saving practices in Burkina Faso. *BMJ Glob Health* 2018;3:e000809.
27. Sarrassat S, Meda N, Badolo H, *et al*. Effect of a mass radio campaign on family behaviours and child survival in Burkina Faso: a repeated cross-sectional, cluster-randomised trial. *Lancet Glob Health* 2018;6:e330–41.
28. Manoff International. Trials of improved practices (TIPs): giving participants a voice in program design. Available: https://www.manoffgroup.com/wp-content/uploads/summarytips.pdf [Accessed Mar 2018].
29. Murray J, Remes P, Ilboudo R, *et al*. The Saturation+ approach to behavior change: case study of a child survival radio campaign in Burkina Faso. *Glob Health Sci Pract* 2015;3:544–56.
30. Development Media International. Radio spot for malaria campaign. Available: https://videos.weebly.com/uploads/9/0/0/3/90035669/en_classe_still_2_colour_titles_464.mp4
31. Domek GJ, Cunningham M, Jimenez-Zambrano A, *et al*. Designing and implementing an early childhood health and development program in rural, Southwest Guatemala: lessons learned and future directions. *Adv Pediatr* 2017;64:381–401.
32. Dunn D, Domek G, Luna-Asurias C. Care Group manual: my mommy and me. *Center for Global Health. Colorado School of Public Health* 2017.
33. Aubel J. The role and influence of grandmothers on child nutrition: culturally designated advisors and caregivers. *Matern Child Nutr* 2012;8:19–35.
34. Sample size and saturation in PhD studies using qualitative interviews. forum qualitative Sozialforschung/Forum: qualitative social research 2010.
35. Kathy C. *Constructing grounded theory:a practical guide through qualitative analysis*. London: SAGE, 2006.
36. ATLAS.ti scientific software development GmbH.
37. Gladstone M, Phuka J, Mirdamadi S, *et al*. The care, stimulation and nutrition of children from 0-2 in Malawi-Perspectives from caregivers; "Who's holding the baby?". *PLoS One* 2018;13:e0199757.
38. Super CM, Harkness S, Barry O, *et al*. Think locally, act globally: contributions of African research to child development. *Child Dev Perspect* 2011;5:119–25.
39. Nsamenang AB. A West African Perspective. In: Lamb ME, ed. *The father's role cross-cultural perspectives*. Hillsdate, New Jersey: Lawrence Erlbaum, 1987.
40. Jeong J, Siyal S, Fink G, *et al*. "His mind will work better with both of us": a qualitative study on fathers' roles and coparenting of young children in rural Pakistan. *BMC Public Health* 2018;18:1274.
41. Dumbaugh M, Tawiah-Agyemang C, Manu A, *et al*. Perceptions of, attitudes towards and barriers to male involvement in newborn care in rural Ghana, West Africa: a qualitative analysis. *BMC Pregnancy Childbirth* 2014;14:269.
42. Jeong J, McCoy DC, Yousafzai AK, *et al*. Paternal stimulation and early child development in low- and middle-income countries. *Pediatrics* 2016;138:e2016357.