BMJ Open Parental experiences of childcare in an informal urban settlement: qualitative interview findings from the Nairobi Early Childcare in Slums (NECS) project

Robert C Hughes , ¹ Ruth Muendo, ² Sunil S Bhopal , ^{1,3} Silas Onyango, ² Elizabeth W Kimani-Murage, ² Betty R Kirkwood, ¹ Zelee Hill, ⁴ Patricia Kitsao-Wekulo²

To cite: Hughes RC. Muendo R. Bhopal SS, et al. Parental experiences of childcare in an informal urban settlement: qualitative interview findings from the Nairobi Early Childcare in Slums (NECS) project. BMJ Open 2023;13:e071627. doi:10.1136/ bmjopen-2023-071627

Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/ bmjopen-2023-071627).

ZH and PK-W are joint senior authors.

Received 05 January 2023 Accepted 03 April 2023



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Correspondence to

Dr Robert C Hughes; robert.hughes@lshtm.ac.uk

ABSTRACT

Objectives To gain an in-depth understanding of parent/ carers' perspectives on, and decision-making about, early childhood care in general, and paid childcare specifically. in informal settlements in Nairobi.

Design In-depth telephone interviews, conducted using a topic guide, were analysed through a combination of deductive and inductive thematic analysis and regular reflexivity meetings. We explored parents' childcare needs and experiences over time, and their perspectives on the provision of paid childcare in the slums.

Setting Three informal settlements or slums in Nairobi: Kibera; Kawangware; and Mukuru-Viwandani.

Participants A purposively selected sample of 21 parental and non-parental carers of children aged under 5 years who were currently living in three Nairobi slums. including men and women, and users and non-users of paid childcare.

Results Childcare is complex, with a plurality of approaches being used. Common strategies include family member provided care (often but not exclusively by mothers, at home or at a place of work), paid childcare and informal or ad hoc arrangements with neighbours. Childcare decision-making in these settings is constrained by economics and the broader context of living in the slum. Paid childcare is frequently used, but is widely understood to be lacking in quality, especially for the poorest. Quality of childcare is understood to comprise a combination of structural factors, such as the physical space, play and learning resources and processes such as interactions between the care provider and children or parents. Conclusions These findings suggest a need, and opportunity, to improve early childhood care in slums. Understanding parental perspectives on both the deficiencies and valued features of childcare is likely to be vital to informing efforts to improve childcare in these settings.

INTRODUCTION

The importance of early childhood development (ECD) is increasingly acknowledged by academics, policymakers and funders, 4 driven by a growing appreciation of how early life adversity and the presence or absence

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The use of in-depth interviews, conducted by and analysed with an experienced researcher, provided deep insights into parental expectations, practices and preferences related to childcare.
- ⇒ The sample, selected purposively, included both parent and non-parent primary caregivers, men and women and those using and not-using paid childcare in the slum, providing valuable breadth.
- ⇒ While we were concerned that the use of remote data collection (telephone interviews) might undermine rapport building or lead to interruptions to interviews, in practice this happened very rarely, and all calls were completed.
- ⇒ Limitations include the sample selection which, due to COVID-19, relied on an existing sampling frame of potential telephone survey respondents and a relatively short duration of interviews.

of 'nurturing care' are key determinants of human capital accumulation. At the same time, the world, especially African Countries, are rapidly urbanising,⁵ and much of this urbanisation is informal, with significant consequences for health.

There is, however, a limited literature about ECD in urban areas, especially who is, or is not, providing the critical nurturing care to young children in these settings. There is often a presumption that mothers are the only or main provider of care to young children, and this is reflected in much ECD policy While there is considerable evidence about increasing use of childcare providers in many informal urban settlements, little is known about the perspectives of key stakeholders including of parents/carers relating to this childcare, as much of the research work to date has been quantitative. 7-10 Key themes emerging from the few studies that have been conducted, suggest that parental



decision-making may be constrained by circumstances¹¹ and that both decision-making and provision of child-care are highly gendered, with a presumption that this is 'Women's business'.¹²

We aimed to address this knowledge gap, through a set of in-depth interviews (IDIs) with parents/carers from across three slums in Nairobi to build an understanding of their perspectives and decision-making about child-care. This study formed part of the larger Nairobi Early Childcare in Slums (NECS) study which sought to understand the use of, and to document the provision of, paid childcare in an informal settlement in Kenya.⁸

Early in the project, the SARS-CoV-2 pandemic emerged, with consequential radical impacts on the lives of almost all people in the world, including those living in Nairobi slums. ^{13–16} While this necessitated a shift from in-person to remote (telephone) interviews, we took the opportunity to also explore how the pandemic, and associated attempts to control it, impacted on the care of young children in the slums, reported separately. ¹⁷

METHODS Study design

Qualitative in-depth interviews, conducted remotely by telephone.

Setting and participant characteristics

Data were collected between 11 May 2021 and 17 September 2021, through in-depth telephone interviews with parents/carers of children aged under 5 years, living across three slums in Nairobi (Kibera, Kawangware and Mukuru-Viwandani). These slums were selected for three reasons. First, they are collectively typical of the larger and longer established slums across Nairobi. Second, this provided overlap with the setting of the larger NECS study, allowing triangulation and deeper exploration of emerging insights. Third, practical considerations; our data collection partner, BUSARA¹⁸ had an existing database with contacts of low-income households who have agreed to be invited to take part in future planned studies. Invited participants included users and non-users of paid childcare and men and women.

All three slums are characterised by high levels of poverty, poor sanitation and hygiene, inadequate shelter, poor infrastructure, high levels of insecurity and low rates of formal employment. ^{19 20} All of these slums have been established for decades and are subdivided into overlapping 'villages' which are often dominated by one ethnic group. Up to date data on employment status, education and mobility patterns in the slums are hard to come by. However, recent research suggested that around half the population in Viwandani had completed secondary or higher schooling, and around two-thirds of women and 9 in 10 men were employed, with most employment being informal. ²¹

Across all three slums, the vast majority of provision of childcare is private and informal, largely being located in private homes, with a smaller number of 'daycares' as they are all commonly referred to, being linked to schools, community-based organisations or faith-based organisations.²²

Data collection

An experienced Masters level interviewer (RM) conducted telephone interviews in the local language (Kiswahili) using a semi-structured topic guide developed by the authors (online supplemental appendix 1). The content of the topic guide was informed by a literature review and draft theoretical framework setting out anticipated childcare options, and potential determinants of decision-making (described in more detail in the NECS study protocol paper).⁸

Participants were selected from a randomly ordered list of 650 parents or primary carers who had completed up to five structured telephone surveys tracking the impact of COVID-19 on the care of children in slums.²³ All participants were responsible for the care of a child aged under 5 years (at the start of the study).

Sampling was purposive; RM worked down a randomly ordered list of 650 participants from a larger Covidtracker survey of parents of children aged under 5 years, to include a mixture of males and females of a variety of ages of children and both users and non-users of paid childcare. When it was felt in team review meetings that one group (eg, mothers, or those caring for older children) was sufficiently well represented in the sample, participants on the list were skipped until a participant with a desired characteristic was reached.

Telephone interviews were pre-scheduled through a scheduling call, and participants were asked to identify a quiet area and convenient time to take the interview call. Calls began with RM introducing herself and reading a participant information sheet and a consent script. Where necessary, this information was rephrased for clarity to ensure participants' understanding, and an opportunity was also provided for respondents to ask questions.

Interviews (excluding the informed consent process, but including the discussion about the impacts of COVID-19, reported elsewhere 17) lasted between 14 and 39 min, with a mean duration of 22 min. Interviews were audiorecorded and then later, in small batches of one to three interviews, were simultaneously transcribed and translated verbatim into English by a professional translator. These translated transcripts were reviewed and, where necessary, translations corrected by RM prior to analysis. RCH, RM, PKW, SO and ZH met regularly, approximately every 1-2 weeks, during fieldwork to identify and discuss emerging themes and to adapt the topic guide where necessary in order to explore emerging themes in more depth. Topics where emphasis was added to the topic guide included trust and kinship (including ethnicity), informal accountability mechanisms and regulation of childcare provision. These meetings were also used to determine, through review and discussion of the transcripts, when additional interviews were deemed to not



be providing new information. No follow-up or repeat interviews were conducted.

Public involvement

Public engagement meetings were held during study design/inception with local community-based organisations working in the area in February 2020, during which methods and research questions were discussed. In addition, a series of pre-study visits to the study site allowed for initial formative discussions about the research questions with parents and childcare providers. Interview guides were iterated as the data collection and analysis progressed, drawing on experiences, perceptions and ideas reported. In addition, during preparation of this manuscript emerging findings were shared in a community meeting in Nairobi in March 2022. At this meeting, the findings were presented in brief, and there was broad agreement in them; the conversation became focused on policy implications of the work.

Ethical considerations

At the start of interviews, participants were in turn asked to confirm that they were happy (1) to take part, (2) for the conversation to be recorded, translated and transcribed and (3) for these data and their analysis to be shared and used with researchers both in and outside of Kenya. In this, the rationale for the study was explained, in particular the hope that this research can help to inform longer-term efforts to improve childcare in slums. They were also informed that they would receive a small amount of compensation (mobile talk time credit equivalent to US\$3) for their battery use/other expenses. This verbal consent process was audio-recorded. The consent script used is included in online supplemental appendix 1.

Data analysis

Data analysis occurred concurrently with data collection, primarily through team meetings every 1–2 weeks. All transcripts were read several times to build familiarity with the data. They were then coded using NVivo V.12²⁴ using initially a deductive coding template developed based on the theoretical framework that guided development of the interview guide, drawing on the NECS study protocol paper. Within these broad themes, interview transcripts were coded inductively into subthemes, focusing on understanding the underlying meaning behind statements, and also to identify both consistent and apparently contradictory responses.

Emerging subthemes and draft coding schedules were shared and discussed among the authors in the team meetings, and reflective notes were kept throughout the process, noting down the themes which were felt to be most important alongside contrary perspectives where these arose, and the context in which the information was provided. Over the course of these meetings, including those after data collection had been completed, the key themes presented below were developed. In addition,

these meetings were used to reflect on the effectiveness of telephone interviewing, including how easy or difficult it was for the interviewer (RM) to build an effective rapport over the phone. Various strategies were employed to do this, including flexibility on scheduling—to allow for when was most convenient for respondents—and also allowing interviews to be more guided by respondents, for example, encouraging the conversation to flow to areas where they were most open, especially at the start of calls.

During training and analysis, the epistemological position of the research team was discussed at several points; broadly, the team felt they adopted a pragmatic position, ²⁵ which seeks to focus on the utility of knowledge to inform practice, programmes and interventions.

The analytical approach taken in this research is also phenomenological, seeking to draw on the experiences of the research participants and how they describe their lives. However, at the same time, we also recognised that a concern for addressing inequity—an emancipatory approach—informs our thinking, as do feminist perspectives and concerns for addressing gender inequality. RM, SO and PKW are early childhood development researchers living and working in Kenya who use both quantitative and qualitative methods. RCH, ZH, SB and BK are UK-based child health and development researchers. RCH has worked as a health adviser at several international donor organisations. SB is a community child health physician.

We have used the Standards for Reporting Qualitative Research (SRQR) reporting guidelines in drafting this manuscript.²⁶

RESULTS

Table 1 describes the characteristics of the IDI participants. Respondents were mostly mothers, ¹¹ and fathers, ⁸ with two grandparents. The majority of children were aged 12–23 months and older. The selected participants included an approximately even number of users (n=11) and non-users (n=10) of paid childcare.

Childcare was an important aspect of the lives of all the interviewees. The need for someone—either themselves, their partner or someone else—to look after their child was universally acknowledged, with this need changing as a child and siblings grow and as work and social circumstances change.

Examining this in more detail, three major themes emerged: the plurality and diversity of childcare approaches and strategies; the constrained decision-making involved in childcare use; and four core features of the paid childcare market (informality, flexibility, diversity and deficiency). These major themes, illustrated in figure 1, build on those identified a priori. Specifically, these themes additionally emphasise the dynamic nature of childcare needs and the widespread acknowledgement of deficiencies in the current childcare system.

Table 1 Respondent characteristics		
Characteristic	Frequency (n=21)	
Female	13	
Male	8	
Age of respondent		
18–25	2	
26–35	11	
36–45	8	
Formal education		
Some primary schooling	2	
Completed primary	6	
Completed secondary	8	
Any post-secondary education	5	
Age of child/children		
0–11 m	2	
12–23 m	10	
24–60 m	9	
Relationship to child		
Mother	11	
Father	8	
Grandparent	2	
Use of paid childcare		
Yes	11	
No	10	

Plurality of approaches and strategies to childcare

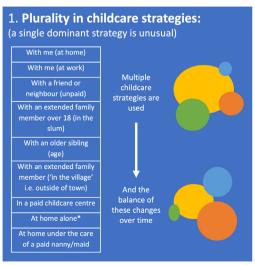
Among those interviewed, there was considerable plurality of approaches and strategies to childcare. Many different

strategies were employed along most families' child-care journeys. These included care provided by a family member, including parents, grandparent(s), siblings and aunts/uncles. At times this entailed one parent, usually the mother, dropping out of the workforce to care for a child. Alternatively, a parent/carer would take the child to work with them, although it is notable that this was only feasible for certain types of work (eg, selling at the market) and at certain ages and stages of child development, especially when they were younger. In addition, among respondents in this study, those taking a child to work with them were exclusively reported to be women.

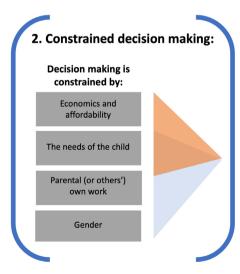
Two types of categories of paid childcare were reported. The use of paid but informal 'centre-based' childcare was described as common. In practice sometimes this 'centre' was also often the childcare provider's home, with the physical space very similar or identical to the single-room dwellings that are common in the area. The varying versions of 'centre-based' childcare described by respondents are discussed further below, including in boxes 1 and 2.

The use of nannies or 'house girls' was mentioned, although much more uncommonly, and was described as being more commonly used by better off families. Challenges with this childcare strategy including affordability and staff retention, with several respondents saying how 'house girls', as they were often referred to, could not be relied on to stay in part because of the low wages that they could afford to pay them. Neighbour-provided care, or children playing with others 'on the street' was also described as common, although generally for shorter periods of time, for example, when going to the shops. Sometimes this was unpaid, but sometimes it was paid for either in kind or with a generally small and variable

Parental perspectives on childcare in informal settlements in Nairobi: key themes







3. The core features of the childcare system, from parents points of view, are:



Figure 1 Parental perspectives on childcare in informal settlements in Nairobi: key themes.



Box 1 Vignette 1 describing use of paid childcare in the slums

Based on in-depth interview 5 with the father of a 6-month-old who attends childcare most days.

I, and my son, wake at 4 am. I must get to work at 5 and I walk there... it's far. And his mother must go out to look for work. So my son goes to a daycare. He's 6 months old so we take clothes and diapers, and some milk if we have any.

It's not a school, it's a daycare, made of iron sheets—although one side is not yet watertight. We pay 10 shillings (US\$0.1) a day; you only pay for the days that you go.

He goes because we work and so that he can grow with other children. When he's there he's able to know a lot and to be bright. We chose this daycare because it's a bit clean. I have not said it is good, we are only saying it is better. If a child comes without milk, the teacher will understand that they don't have today.

But it's not great. There are more than 50 children there, from 2 months old to 1 year. They sleep on carpets on the floor. They are just inside. There is nothing that this teacher does, she just looks after them. She is like a watchman. The rooms are flooded at the moment because of the rains. Some children from this daycare were carried away by the water... they died. It was on the TV news... But it dries out quite well. You get scared, but you don't have any other choices. Tell me what will you do? I love my children. But I lack money to give them a better life. We pick him at between 5 and 10 pm, depending on who has reached home first.

amount of money being given. No parents described leaving children at home on their own in these interviews.

Childcare decision-making is complex and constrained

The second major emerging theme was that childcare decision-making is complex, and although it draws on numerous aspects of 'demand' or parent/carer preferences, choices are also significantly constrained or restricted by both personal resources and affordability, and wider 'market' availability. The decision-making process for parents/carers is varied; it is driven by their

Box 2 Vignette 2 describing use of paid childcare in the slums

Based on in-depth interview 2 with the grandmother of a 18-month and 3-year-old who used to use paid childcare until they lost their jobs during the COVID-19 epidemic.

I am his grandmother. I was working as a housekeeper, living there, and my daughter was working, selling things on the street. He started going to the daycare when he was 2 years old. We paid 70 shillings (US\$0.7) per day. There were more than 30 children there. It was the owner's house to. We drop him at around 6 am or 5 am, and collect him at around 7 pm.

She started this daycare after having her own children. They teach them a bit too. I like her because she is my friend and she looks after them well; you find your child is comfortable and happy. This is one of the more expensive daycares.

But when I and my daughter lost our jobs because of COVID-19, we stopped using the daycare; we don't need it now, we can't afford it anymore. economic/employment circumstances, the age of the child and gendered aspects. For some, there is little or no choice, yet for others they make an active decision to, or not to, use paid childcare (as illustrated in figure 1).

Circumstances essentially determined the childcare strategy used by parents that had little or no choice. In particular, the use of paid childcare providers, especially informal 'daycares', was frequently described as a choice of last resort by both users and non-users of paid childcare:

You're struggling but you do not have options ... so it's not that they are good but we do not have much of a choice. – IDI17, male user of paid childcare for his 18-month and 4-year-old

In addition, some carers who had dropped out of the labour market to take care of their (often younger) child also described a similar lack of choice; the need for them to stop working to look after their child was essentially non-optional. Notably, dropping out of the workforce to care for a child was only reported among women. The reasons for this appeared to be a combination of both sex (in particular mothers breast feeding) and gender, with caregiving generally seen as mostly women's work.

Where a choice was to be made, a number of factors came into play. These, reported in detail in the next section, included: Economics and affordability; the child's age-determined needs; parental work (especially flexibility around work patterns and commutes) and gender, with it generally being seen as a women's responsibility to coordinate childcare.

Economics and affordability were key factors cited by many parents. This was described as being part of a wider challenge of bringing up a young child in a slum, where affordability of good enough, if not necessarily 'good', childcare sits alongside broader challenges of making ends meet, including household food and nutrition security. All of this economic challenge was described as having been amplified, but pre-existing, the COVID-19 pandemic:

I love my children... but I lack money to give them a better life... the other [daycare] is better... but it is expensive.... It charges 15 shillings [US\$0.15] daily. – IDI5, father and user of paid childcare for 6-month-old

The needs of the child were reported as important by many study participants. Most specifically, this was described in terms of the age of the child, with a preference, including by fathers, for the youngest children being predominantly cared for by a mother, especially when breastfeeding:

Breastfeeding is very important... if you have decided to give birth, stay with your child and look after them. – IDI13, father of 15-month-old cared for by her mother at home

Another aspect of the child's needs that influence decisions on what childcare approach to take was their need for social interaction and to spend time with peers. In addition, several respondents described how paid childcare, or preschool, helped their child to get a head start in early learning:

They are taught how to read, play with the crayon. Is it called crayon? ... Yes, they are taught how when they play this is called this and that (naming objects). – IDI7, mother of 4-year-old childcare user

When he is with children in school, he is able to know a lot and to be bright. I tell him to go and spend his day there. – IDI5

Parental (or other primary carer's) work was important to childcare decision-making in a variety of ways. This included responding to the challenge of intermittent, often informal, work and the knock-on variability in what childcare is needed. Work hours and location were also important, the latter frequently necessitating long commutes, and meaning that a provider who offered long hours was preferred:

...They would allow you to bring a child in the morning and pick them even at 5 pm or 8 pm because the owner was living in the same environment... So, you see it is an advantage even when you come from work late. – IDI8, mother and former user of childcare for now school-aged child

Parent/carer **gender** was also important to the process of childcare decision-making. Although some parents/carers reported shared decision-making, more commonly both male and female parents/carers reported that these decisions and responsibility were primarily a women's:

That is a woman's decision. When you understand about these things are women determined ... she will know if she can leave them or not. – IDI13

That is on me because even when I take him to the daycare, I am the one to pay. – IDI1, mother of a 4-year-old and previous childcare user

That said, caregivers also considered advice from others, including both the child themselves and trusted friends or neighbours. In terms of the child's own expressed preferences, this included, for example, their desire to spend time with particular relatives or desire to socialise with peers in the neighbourhood. Friends or neighbours, especially those with direct experience of particular paid childcare providers, also sometimes directed parents to providers perceived as being of higher quality and/or providing better value services. Some respondents reported that ethnicity was an important consideration, with some expressing a preference for a childcare provider from their own ethnic group, citing increased trust towards members of their own tribe:

We don't trust them they are the bigger thieves. -IDI9

The paid childcare market is diverse, informal, flexible, but also often deficient

The second major theme identified related to the features of the, commonly used, paid childcare provider ecosystem. 'Daycares', as they are usually referred to, were described by respondents as common and ubiquitous. Core features of the childcare 'system' or market described by parents were diversity, informality and flexibility. In addition, when talking about quality of childcare provision, a core theme to emerge was that of deficiency. Boxes 1–2 include vignettes describing the experiences of two illustrative study participants' use of 'daycares' in an attempt to provide a rich description of the role of the paid childcare providers in users' lives.

Diversity

Both users and non-users of paid childcare described a broad spectrum of provision of childcare in the slum. This ranged from at one extreme the most informal, ad hoc, arrangements with neighbours where small payments, sometimes in kind, were made:

You have to give her something... when you go to the market and you get a good amount or when you come from a job. You give her... when you have something. – IDI11, mother of a 1-year-old

She is a small girl... It really is a woman's home...who takes care of children. – IDI1

At the other end of the spectrum is more formalised, 'centre-based' childcare, which might separate children into 'classrooms' by age and involve the employment of staff. However, the most commonly described paid childcare sits somewhere in between these extremes.

Informality

Almost all paid childcare in the slum is informal. Providers are mostly women, and they may or may not have any formal training. More commonly they will have experience of looking after their own children; some were described as having 'volunteered' for the role. The setting-up of the daycare is commonly described in organic, rather than planned, terms.

Many respondents described the system as totally unregulated, operating largely 'under the radar' of the government. This was in part a reflection of the broader informal context of slums, where regulation was described as unusual, but the lack of regulation of childcare specifically was also seen as notable by several respondents:

Even me I can wake up one day and open my house to the public and say I have opened a daycare... Without being asked a question. – IDI13

The government was trying to check on them but there is a way they do not recognize daycares... They are not branded, and they are many. ... Some are hidden... you won't see a sign board. - IDI8

However, a few parents/carers described some—generally narrowly in scope—regulation. These included

occasional visits by local sanitation/hygiene officers, or reactive, heavy-handed and ultimately ineffective regulatory initiatives including demolitions that were precipitated by a child death in a childcare facility, or a fire.

In part because of a recognition of the risks associated with the absence of formal regulation, acknowledging the importance of entrusting a child to a sometimesunfamiliar daycare provider, several parents/carers described having to themselves undertake quality checks. These 'spot checks' or 'fact-finding missions' seemed to also reflect a lack of trust in providers:

So it's a must for a parent to be observant... maybe this daycare has other intentions, this world is changing. You understand? ... You can't take your child to a stranger. If you take them to a daycare you should look. First you should look at this daycare how do people see it? Or you do a feasibility study ... So, you can understand how things are happening. - IDI13

I personally started observing her. Because I am not employed—it is my own job—so I can go at any time... I can leave at any time and tell her I have come back early give me the child I stay with him. So that's how I came to know she is a good lady. - IDI19, father of a 2-year-old childcare user

To replace or augment this informal regulation, some respondents suggested that the government needed to take a more active role in regulating the sector:

I think the government should focus on daycare centres to be registered and they should check the quality before someone opens a daycare. They should check on the environment to see if it is safe for these children to stay there and even be strict on the number of children that a person can handle in the daycare. If the children are many and it is one or two people, it's not good. They should look at how many they are, give them a license to show that this daycare is okay. - IDI8

That said, respondents' expectations for improvement in quality or formalisation of childcare provision was extremely limited; while several suggested what the government could or should do to regulate the providers, there was little expectation of this happening, reflecting the wider limited policy attention and resources given to slums:

You know how things are in the slums! – IDI17

A third feature of paid childcare in the slums was flexibility: Among those who used daycare, the providers' flexibility in terms of pick-up times, payment and emergency childcare was important, especially for those who worked long or unpredictable hours; 'You can get late ... but she is understanding. ...that's why I love her' - IDI16. The flexibility in payment also meant children were fed on days when caregivers could not afford food themselves:

"When I don't have money, they eat there and I will pay the day I will get it' - IDI2.

This flexibility was described as being due to a combination of both pragmatism and the norm in the slums where 'credit' or late payment to providers of services is common and also, related, sometimes due to the limited social distance between parent/carer and provider. This was governed in part by how well the respondent knew the provider, but also by aspects such as tribe/kinship. In general trust was low in the study setting and those who did not send their children to daycare often cited their limited trust in the community:

'Nowadays there is no trusting each other... you can't trust anybody. For example, you can trust someone and leave them with my child for a while and you find sometimes they disappear with the child'. - IDI12, mother of a 1-year-old, who stays at home with her

When describing good quality childcare, parents/carers talked about the flexibility described earlier, but also described the importance of a set of structural or infrastructure aspects to quality alongside process dimensions.

Structural aspects included the features of the physical space for the childcare and its immediate environment, including (over)crowding, safety, (visible) cleanliness of the location and the children, sanitation and hygiene and the presence or absence of play/learning materials. Process aspects of quality included: the ratio of caregivers to children; care and responsiveness of the provider (in particular how well they interact with children); how friendly they were, quality of 'teaching'; peers and peer interaction at the daycare, and; the quality of food and feeding support provided.

For both structural and process aspects, a range of quality was often described among users of paid childcare. Table 2 provides illustrative quotes of both the range of quality described, or desired, for these.

Participants linked some of this variation and diversity to the differing fees charged by childcare providers, which reportedly ranged from as low as 5 Kenyan shillings (KES) per day (around US\$0.05), to a more common 30–70 KES (US\$0.3–0.7) per day, and with some charging up to 100-200 KES (US\$1-2) per day.

Now when you get the one that charges 50 shillings... you want your child to go and suffer there...? It's like you have left your child on the road. Because they will be left there crying ... You know, you have to spend so that your child can live well. - IDI4, mother of a 3-year-old non-user of paid childcare

Parents reported that this represented a significant proportion of the household budget for many 'It is expensive... It charges 15 shillings per day' (IDI5). Payment was generally reported to be made daily, but some paid weekly or monthly.

And [this daycare] was at least affordable... It was 850 shillings there and some others require one to pay

Table 2 Illustrative quotes demonstrating the range of structural and process aspects of quality of slum childcare

Better looks like...

Aspect of quality

...worse looks like

Structural factors

We chose this lady's because it looks like it's Examples: a bit clean. - IDI5

They are fine, happy and they sleep on mattresses when it's time to sleep. - IDI7 You know the other one doesn't have a toilet, the children go for long calls on the side. They are told to go on one side. [At the one I usel she puts a sack and then she goes to throw it in the toilet...... have not said it is good we are only saying it is better. - IDI5

- ► The physical space for the daycare and its immediate environment.
- (Visible) cleanliness, sanitation and hygiene.
- Presence or absence of play/ learning materials or first aid equipment.

There, children are too many in one small room... And outside the door there is a trench ... So, you know a child maybe playing and fall in the trench ... or they get sick. - IDI14

The one [name] goes to has more than 50 [small] children, aged from 2 months to 1 vear. - IDI5

Where we take them those tools Ito check their temperature when unwell1, they are not there. - IDI17

Process factors

They look after them well ... when the lady sees the child has made themselves very dirty, they clean them and you find he has been changed and he looks well and you feel content with the service. - IDI7 The lady who looks at the children is careful and she also knows how to talk to children... - IDI19

These teachers were friendly with the children ... And they have good hearts. -IDI8

The lady there is joyful. - IDI18 She is understanding and she is friendly to children. Children love her and she stays with your child like she would stay with hers. IDI16

You see maybe she is feeding her well and the children come when they are full. That is good and she looks after them. - IDI2

Examples:

- ► Care and responsiveness of the childcare provider.
- Quality of 'teaching'.
- Peers and peer interaction.
- ► Quality of food and feeding support provided.

She has one room ... She has three mattresses inside and there are like 20 children so I usually wonder, honestly speaking how she serves the babies. ... some are 1 year old, 1 year down to a few months. - IDI9

...the kind of lady that locks children in the house and goes out. - IDI19 She took a lot of children but there is a number they were specifying so she would take a lot of them and they would cry at the same time and the caregiver is one. She would be cooking and still looking after the children. - IDI8

They are just inside there is nothing that this teacher does she just look after them. She is like a watchman. - IDI5 He has been in an enclosed place like a prison and they don't go outside so you see like if he is so bored - IDI5 Maybe you take him with food and they are given when it's cold. - IDI6

IDI, in-depth interview.

2000 shillings per month ... Raising such an amount is hard. - IDI8

Even within the range of quality described earlier, a consistent theme was that of deficiency in what childcare was accessible to people with young children in the slum. Although some reported personally being content with the quality of the childcare they used, the presence of 'bad' childcare, as described in table 2, was frequently reported. Commonly 'bad' childcare was described as being childcare where the provider was motivated by (only) making money, where (s)he was untrained, inexperienced and the setting was a dangerous place, with hazards like open fires, unprotected sewers or rivers and in dark, crowded rooms. One example of reportedly deficient childcare was the use of sedatives to manage large numbers of children; for example, one parent reported that 'when they are crying they are given piriton [the brand name for an antihistamine medication than leads to drowsiness] to sleep.' (IDI12) and some even

reported involvement of unscrupulous daycares in child trafficking: 'You know, some are on child trafficking!' (IDI13), although it is notable that in both of these were the perceptions of deficient care reported by non-users of paid childcare.

This poor care was described as occurring within a context that respondents described as one of generalised economic disadvantages when living in a slum 'You know this life in the slums... we do not have many luxuries' (IDI13). In addition, some emphasised a lack of government attention or investment in slums in general; 'Our government has a lot of money... [but] they are not concerned about us' (IDI5). Widespread corruption was also cited as an underlying concern: 'They are taking money and storing it in their houses. You see the reason why Kenya is moving backwards? ...the thing that is hurting us is this government' (IDI5).

The impact of this deficiency in provision was considerable. This included a worry that poor quality care would



lead to a child coming to harm; something that brought considerable anxiety to caregivers who felt they had limited alternatives.

A final important point that was made about paid child-care provision in the slums was about the, often gendered, economic benefits that can arise from provision of paid childcare. This was described in positive terms as being important for the providers themselves through the generation of jobs, often for women:

You know I want us to calculate on the calculator. When you add up more than 50 children per day it is 500 shillings. 500×30... That is 15 000. That person has employed herself! – IDI5

In addition, respondents described how having access to flexible childcare enabled parents/carers—and mostly mothers—to work and earn an income, including from informal and intermittent work.

DISCUSSION

This study has discussed a number of key issues related to the challenges of caring for young children in a slum. First, although a diverse set of strategies are used, many families have little real choice in childcare; rather decision-making is about accommodating to household and contextual realities, and this challenge often falls to women. This is consistent with a broader, if still limited, body of research exploring urban early childhood which shows the plurality of strategies that are often used, although often with fewer constraints in higher income settings than we identified in the slums. 9 27–33

Second, we describe widespread concern about the quality of the, commonly used, paid childcare in the slum. These concerns were often shared by both users and nonusers of 'daycares', and respondents expressed limited expectations for this to change, at least in the short term. That paid childcare appears to be a core part of the childcare ecosystem in the slums is consistent with the limited research on this area, which suggests that paid childcare may be used by up to 40% of those employed.^{22 31} It is also noteworthy that parental conceptions of 'quality' of childcare seem to encompass many aspects of the WHO/ UNICEF Nurturing Care Framework² which emphasises the importance of safety and security, health, nutrition, early learning and responsive caregiving. It is also interesting that some parents were able and willing to make financial sacrifices to either keep their children at home under their own care, or to send them to a better, or 'less bad', childcare provider.

Third, the flexibility in payment and hours alongside both physical and social proximity of childcare providers seemed to be important to parents/carers. This implies that strategies to improve provision of quality childcare need to take these into account, alongside the need to keep provision low cost. This is consistent with the idea that childcare decision-making is less a rational exercise than a, sometimes messy, process of accommodation of family, employment and social and cultural demands, something that appears to be common across even very different settings.³⁴

Finally, underlying childcare decision-making is an, often gendered, set of conditions and norms which determine the choices parents/carers make, when they have options available to them. Women are often expected to take the lead on childcare decision-making, echoing similar work among informal workers which points to the tension women frequently face in balancing roles as care providers and earners with managing their own wellbeing, and how this leads to 'least bad' rather than idealised choices. However, our findings did also suggest that men are commonly involved too, including in drop off/pick-ups and also checking on quality of care.

Implications of this research

The first key implication of this research for policy is the urgent need to better consider non-parental childcare providers, including paid childcare providers, in ECD policy and programmes. The common use of, and dissatisfaction with, much current paid childcare provision ought to prompt further consideration of how quality of childcare can be improved.

Second, these findings can help to inform such quality improvement efforts. For example, understanding parent/carer perspectives can help with the design and delivery of services that, through addressing parent/carer needs, concerns and preferences, will be more likely to be used. These qualitative findings should therefore be integrated with both other qualitative accounts, including those from the more developed social policy and grey literature, 27 35 and quantitative research—such as that undertaken through the broader NECS study⁸—in order to address the deficiencies we discuss here. Although several, often non-governmental organisation led, projects have documented both community-led and externally driven efforts to improve childcare quality in slums, it is notable that few data exist on the impacts of these on child development. 36-38 In addition, it is notable that few of these initiatives seem to include a step change in the resources allocated to informal childcare provision; something that our findings, of widespread deficiency in provision, imply might be needed.

Strengths and limitations of this study

This study has a number of **strengths**. We are unaware of any other research which has sought to gain an in-depth understanding of parent's/carers' perspectives on care of young children in sub-Saharan Africa's slums. The use of IDIs provided insights into parental views, expectations, practices and preferences, including their childcare journeys over time and their views of the childcare strategies that they do and do not regularly use. The sample, selected purposively, included both parent and non-parent primary caregivers, men and women and those using and not-using paid childcare in the slum. This provided a valuable breadth of insights. Data collection



by an experienced researcher, with experience working on this issue and in this setting, combined with regular concurrent team analytical and reflexivity discussions enabled collection of high-quality data. In addition, along-side the limitations of telephone interviewing, discussed below, this method also provided some advantages. For example, it allowed us to include participants who we may have struggled to locate in person during daylight hours in the slum due to their work patterns, and we felt that at times it may also have enabled honest reflections due to the balanced anonymity involved, as has been reported elsewhere. Finally, that this qualitative research is part of a broader mixed-methods examination of the care of children in slums means that data can be triangulated across methods.

Limitations of the study include the sampling frame which, due to COVID-19, relied on an existing (although recent and relevant) sampling frame of potential telephone survey respondents. It is possible that this limits the relevance of the study findings, in particular excluding the most poor, who may have less access to a mobile phone. Furthermore, we were concerned that the use of remote data collection (telephone interviews) might undermine rapport building or lead to interruptions to interviews, although in practice this happened very rarely, and all calls were completed. In addition, due to the limited duration of the calls, and the breadth of topics explored including the ongoing impacts of the COVID-19 pandemic, there was insufficient time to explore some issues in detail, for example, deeper issues relating to the role of culture in traditions of child rearing. Finally, despite strategies such as flexibility in scheduling and requesting that the respondents found a quiet space for the interview, it is possible that respondents were not in a private space for the interviews or were distracted which could have influenced responses. Related, relying on telephone interviews meant that fewer non-verbal cues could be picked up and it was not possible to relate what was said to the context in which it was communicated.

Unanswered questions and future research

This research also implies a further set of important research questions. First, the qualitative findings presented here will be important to triangulate quantitative work from the wider NECS study and other similar work. This includes quantitative survey data, including that from the linked computer-assisted telephone interviews, household survey and childcare provider mapping and childcare quality assessment surveys. These data will allow us to quantify the plurality in childcare strategies and to assess the quality of different paid childcare provision. In addition, qualitative work to understand childcare providers themselves, and their practices and motivations, will be critical to inform the sort of childcare quality improvement interventions referred to earlier.

Finally, building on all of these, there is an urgent need to build an evidence base on the process and impact of interventions to support ECD in slums, including through improved childcare provision, including those currently being developed in Nairobi and elsewhere. ^{36 40}

CONCLUSION

The care of young children in slums is important, complex and underexplored. Children in these settings face multiple adversities at a highly formative time in the life course. Parental and other carer perspectives and decision-making around childcare are poorly understood, yet are central. Childcare decision-making in these slums is driven by a combination of the child's needs, the parent/carer's needs and the wider context, and can be seen as a process of accommodating to household and contextual realities.

These insights, alongside the widespread reported deficiency in current provision of childcare in slums described in this study, ought to inform overdue efforts to better support ECD in slums. This includes overdue research, policy and programmatic interventions to improve paid childcare provision in informal settlements so that more children growing up in these settings both survive and thrive.

Author affiliations

¹Maternal & Child Health Intervention Research Group, London School of Hygiene & Tropical Medicine, London, UK

²Maternal and Child Wellbeing Unit, African Population and Health Research Center, Nairobi, Kenya

³Newcastle upon Tyne, Population Health Sciences Institute, Newcastle upon Tyne, IJK

⁴Institute for Global Health, University College London, London, UK

Twitter Robert C Hughes @R_Hughes1

Contributors RCH, SB, BK, PKW and ZH conceptualised the study. RCH planned the paper, led the analysis and wrote the first draft of the paper. RM conducted the interviews and reviewed the draft manuscript, before discussing it with RCH and then all authors. RCH, RM, PKW, SO and ZH regularly discussed and reviewed analytical coding as the data was collected. RM, SB, BK, PKW, EWK-M, SO and ZH edited the draft manuscript and provided important intellectual content. All authors approved the final manuscript. RCH is the guarantor for the paper.

Funding This work was supported by the British Academy (Grant number ECE190134) and Echidna Giving who support RCH through a linked Clinical Research Fellowship.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Consent obtained directly from patient(s).

Ethics approval This study involves human participants and was approved by London School of Hygiene & Tropical Medicine (LSHTM) Research Ethics Committee (LSHTM Ref: 22692) and Amref Health Africa's Ethics and Scientific Review Committees (ESRC) in Kenya (Ref: P777/2020) have reviewed and approved the study protocol. The National Commission for Science, Technology and Innovation (NACOSTI) provided research clearance. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. As per the protocols approved with the Amref Health Africa and LSHTM ethics committees, data from qualitative interviews, where anonymisation is either not possible or there is a high risk of individuals being identified, has not be made available in a repository. However, suitably qualified researchers will be able to access these data



under strict collaboration agreements through emailing the corresponding author or research datamanagement@lshtm.ac.uk .

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ORCID iDs

Robert C Hughes http://orcid.org/0000-0002-1345-3063 Sunil S Bhopal http://orcid.org/0000-0003-1229-781X

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Supplementary Appendix 1: IDI Consent Script and Topic Guide

Consent:

No.	Script	Response and actions.
C1	Good morning/afternoon/evening. My name is <name>, and I am a researcher from APHRC. We are conducting a research to find out how people who live in this area are managing during the COVID-19 pandemic. We are especially interested to learn about the care of young children.</name>	Y/N If not interested, thank and end call.
	Thank you for responding to the survey on [computer to automatically populate with date of CATI].	
	When we spoke with you then, we said we might call you back to ask some more questions.	
	Today, we want to ask if you would be prepared to talk to us more about your experiences over the last few months, and would like to, either today or in the next couple of days, to speak with you for about 30-45 minutes.	
	I would like to tell you more about the research so you can decide if you want to take part? Is that OK?	
	This study is led by researchers from Kenya and the UK. We want to learn how you and your child/children are doing at the moment. We will ask about your household, your work and how your child/children is/are cared for, including whether this has been affected by COVID-19. The answers will be used to build an understanding of how COVID-19 is affecting people in this area.	
	This time, we would like to ask you some more open questions, and will give you more time to tell us in more detail about your experiences over the last few months.	
	The interview will take around 30-45minutes, and if you complete it you will receive 300KES of airtime to compensate you for your time. Participation is voluntary and you are free to stop the interview at any point, including part way through.	
	You and around 15 others were selected from those who completed the telephone survey in the last few weeks and who given their permission to be contacted for telephone research. We have chosen a variety of parents or guardians of young children who all live in Nairobi.	
	If you agree to participate your name, phone number and other personal details will not be shared with anyone. We will store your name so we can call you again in the future if you give us permission. Your answers, with all	Y/N

your personal details removed, and the answers of all the other participants may be shared with other researchers.

Results of the research, but not any of your personal details, will be shared in research reports or papers and with people who make decisions about child health and development policy in Kenya.

Do you have any questions?

FAQs + answers:

- Why do you want to talk to me?
 - o We want to learn about you and your family, including how the coronavirus epidemics affecting your life. This is so that we can try to make sure that those who are trying to design programmes to help people like you understand the issues you face in your daily life. We are especially interested in people who are responsible for young children, as children can be especially affected by events around them.
- Will I be paid for my answers?
 - You will not be paid, but if you complete the survey, you will receive KES 300 of airtime to compensate you for your expenses, for example your battery use etc.
- Why are you calling me again? I already answered your questions last time...
 - o We're interested to learn a bit more about your experiences, and how the current situation, including COVID-19, is affecting you and your family. We'd like to ask some different questions, which focus more on your day to day experiences, and how you make decisions about care of your child/children at this time.
- What happens if I change my mind about taking part?
 - o If you decide to take part, you are free to change your mind at any point, and for any reason. You can just say, and we will not contact you again, and we will delete any answers you have already given.
- Who are you? And who are you working for?
 - My name is [interviewer name]. I work for a group called APHRC. We are a research organisation based in Nairobi.
 For this project, we are working with researchers from APHRC (The African Population Health Research Centre) and the UK (the London School of Hygiene and Tropical Medicine & UCL).
- Can you give me information about the virus?

- I'm afraid I cannot give you information myself, but I can help to direct you to reliable sources of up to date information. Would you like me to send a text message with some telephone numbers and websites?
- Can you help me? I am struggling.
 - o I'm sorry to hear that. I'm afraid I cannot help directly. I can send you some information about ways to access help though by SMS? Would you like me to send a message with ways to contact organisations who are providing some support?
- Whom can I call on further information about the survey?
 - o You can contact researchers at the African Population Health Research Center who can provide more information about the survey. I can give you their telephone number, and I will also send a SMS message after this call with their telephone number.
- I have another question not listed here:
 - o You can contact researchers at the African Population Health Research Center who can provide more information about the survey. I can give you their telephone number, and I will also send a SMS message after this call with their telephone number.
- [After answering questions:] Would you like to take part in the research?

- Yes now → Questions
- Yes but, please call me back. → Schedule call for later
- No →Thank and end call.

date/time

[All of above to be audio recorded, and available for audit as required].

Participant ID: Participant telephone number: []Interviewer ID: Π

Date/Time stamps (automated): START[auto-populated] Date/Time stamps (automated): END [auto-populated]

Confirm consent given: [Y/N]

Audio file: [.mp3 or similar] $Respondent\ characteristics\ (from\ CATI\ interviews):$

Gender: M/F

User of paid childcare: Y/N

- Relationship to child:

Name of youngest child:

Short description of the respondent (tone of voice, engagement and personality):

[paragraph free text]

Interviewer notes/reflections:

[paragraph free text]

Section	Domains/Questions	Probes/Annotations		
Introduction	✓ General purpose of the study	✓ General purpose of the study		
and tips:	✓ Aims of the interview			
	✓ Expected duration – 30-45minutes			
	✓ Who is involved in the process (other participants)			
	✓ Why the participant's cooperation is important			
	✓ What will happen with the collected information and how the			
	participant/target group will benefit			
	Confidentiality			
	✓ Any questions?			
✓ Audio recorder — remind participants that you are recording the i				
	Instructions to facilitator:			
	NOTE: The following is a guide. Try to ask all the questions below in the order given, b			
	it is more important to maintain the flow of discussion. Suggested probes have been			
	included.			
	meiaaca.			
	A note on probing:			
	In-depth probing will allow you to clarify and illuminate responses given by a			
	participant. Some examples include:			
	- Silence – allowing a participant to amplify what they have said			
	- Mirroring – repeating back what the participant has just said			
	Repeating the respondent's words as a question ie "milk is good for children?"			
	- Confronting the participant to clarify an earlier response "I'm a little confused,			
	earlier you said that XYZ"			
	- Using keyword probes – such as:			
	Participant statement	Moderator probe		
	It's good	What about it is good?		
	I like the size	What is it about the size?		
	It is convenient	In what way is it convenient?		
	It works	Can you tell me how it works?		

Using the third-person approach ie "you seem to have strong views on this. What do you think others might feel?" Other probes include: o Can you tell me more about that? O What about that? O What do you mean by that? O What makes you feel that way? o Can you think of an example of that? o I'd like to know more about your thinking on that issue? o I'm not sure I understand how you are using the word O What are some of the reasons for feeling as you do? o You started to say something about...? You mentioned something about...? The specific probes listed below are suggestions, but you do not need to be limited to them, and nor should you feel you need to ask all of them. Use your judgement, and try to allow the conversation to flow. Remember – your job is not to teach, nor to judge. It is important that you do not look down on participants - you are trying to learn from them, not to inform or persuade them. We are looking for participants to take part and tell us what they know. Suggested language for introduction: Good morning/afternoon. My name is <Ruth>, and I am calling today to learn about you and your family, especially the care of young children. I hope, over the course of the next 30-45minutes to learn from you a bit about your life, including how COVID-19 has impacted on you. Please feel at ease. There are no right or wrong answers. Warm up Can you tell us a bit about your child? Annotation: This question is (Habari ya leo, umekuwa aje tangu mwisho mainly a 'warm up' to get [your household] tulipokuzungumzia, kazi biashara?)Unaweza kutueleza the conversation going and machache kuhusu mtoto wako? (Familia yako je?) Ni to build rapport. nani anayeishi na wewe? Ilikuaje mpaka ukaja kuishi Mukuru? 'normal day' We are interested to know what your day to day activity *Annotation: In the R2* looks like. quantitative survey we're Thinking about a normal day, can you tell me how the asking about who looks day goes starting from when you wake up. after children and where Tuna hamu ya kujua jinsi ambavyo shughuli zako za kila children spend their time, siku zinavyoendelea. but are not exploring the parent/carer's day to day Ukiwaza juu ya siku ya kawaida, nieleze vile siku yako activities, and how children inaendelea kuanzia unapoamka (Hasa ukizingatia and childcare fit in, mtoto/watoto wako, siku ya X inakuanga aje?) including who looks after Probes: them (especially when they What do you do after that? are busy) what sorts of If mention childcare, what activities? Where? activities children occupy Unafanyaje baada ya hiyo? themselves with.

Childcare - who	Who are the different people who look after [Name youngest] over the course of a normal week? Ni watu gani tofauti wanamtunza [Name youngest] katika wiki ya kawaida? (Nieleze kidogo kuhusu kila mtu anayeshughulika kumlinda X) Probes: - You? - Who else? - Sibling care? - Other family members? - Friends and neighbours? - Paid childcare? Nanny?	Annotation: this open question is aiming to start an in-depth discussion about who cares for their youngest, where and why (ie how this fits in with other roles and demands on their time, or feelings about what is best for children). Probs should seek to explore all the different people who might be involved over a 'normal' week.
		If conscious 'choices or decisions between different options come up, try to probe how decisions are made, including who makes them and who influences them.
Childcare journey over time	How has the care for [name] changed as they got older or over time? Utunzaji wa [jina] umebadilika kwa njia gani anapo ongezeka umri au baada ya muda? (anavyoendele kukua unaona ni mambo yapi yanabadilika kwa kumtunza?) Has that changed recently because of COVID-19? If so, how?Je, imebadilika hivi karibuni kwa sababu ya corona? Kwa njia gani? [If uses paid childcare: How did you choose this childcare provider? ulichaguaje huu mtoa huduma za utunzaji wa watoto? (ni nini kilichokuvutia kwa mtunzaji?) What is important when choosing a childcare provider? What do you need to look out for?] Ni jambo gani lililo la muhimu unapo chagua mtoa huduma za utunzaji wa watoto? Ni kitu gani ambacho unahitaji kuzingatia?	Annotation: This question seeks to explore the participants evolving childcare 'jouney' and how that is influenced by both the age of the child, and other factors like their work, or — more recently — the COVID-19 pandemic. Try to listen and allow the participant to speak as much as possible, so that shifts or changes can be captured in their own words. If they mention using paid childcare, try to explore how they found and chose their daycare provider; what was important to them in making that decision? How important
Paid childcare	Please can you tell me about the daycares around where you live?	was cost? Quality? Annotation: In this question, we want to explore respondents' perceptions about paid

	Tafadhali nieleze kuhusu vituo vya utunzaji wa watoto karibu na maeneo ambayo unayoishi? (ni mambo gani umeona/umeshuhudia,)	childcare providers. Do not assume that either users and non-users of childcare have positive or negative views on the quality of daycare. If they speak positively about it, try to to explore what they mean by 'good' quality. Likewise, if they talk about 'bad' or substandard childcare, try to get them to unpack what that means to them "Can you tell me a bit more about what you mean by that?" In addition, try to explore how these views on paid childcare impact on their own decision making about childcare.
COVID-19 impacts	How has COVID-19 affected you and/or your family? Please can you tell me a bit more?	Annotation: This question aims to understand,
Impacts	Covid imekuathiri wewe kwa njia gani? Na familia yako je? Unaweza kunielezea zaidi?	including in ways that we may not have captured in the quantitative CATI questions, how COVID-19 has affected the respondent and their family. Again, it will be important to let them speak, and to let them guide the discussion. If needed, consider prompting them on any direct contact with COVID-19 for their family (themselves, or others becoming unwell) and indirect effects, for example on their work, day to day movement, or on community safety/violence, including domestic violence.
	How do you think COVID-19 has affected [name youngest]?	Annotation: This question aims to build on the
	Covid imemuathiri [name youngest] kwa njia gani?	previous one, to ensure that the parent/carer's

		views on impacts on the youngest child are captured, including any impacts on childcare arrangements. If this is already covered in the response above, no need to ask again.
Closing	Thank you. Is there anything else you think is important that we have not talked about? Asante. Kuna jambo lolote lingine ambalo ni muhimu na hatuja ligusia? jambo lingine ungependa kunieleza au kuuliza Summarise Thank participant Provide extra information and contacts to participants, including offer to send SMS with contact details for sources of information/advice.	
	After interview: Data collector to: (1) Write a short description of the respondent (tone of voice, engagement and personality) (2) Write short reflective account on the interview/additional relevant context (e.g. "learnt loads of new tings", "boring", "surprising", "confirmative", "interrupted", "mum shouted at child all the time" etc)	