"What Time Will I Breastfeed the Baby?" Practical Issues in Realizing the WHO Recommendations for Breastfeeding in Urban Poor Settings in Nairobi

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Abstract

Background: Poor breastfeeding practices are widely documented in low- and middle-income countries including Kenya, where only a third of children are exclusively breastfed for six months. This drastically changes in urban poor settings where only two percent of infants are exclusively breastfed. The aim of this study was to better understand the factors that contribute to breastfeeding practices in two urban slums in Nairobi Kenya.

Methods: In-depth interviews (IDIs) and focus group discussions (FGDs) were conducted with women of child-bearing age, community health workers and village elders; and key informant interviews (KIIs) with community leaders including religious leaders, health care professionals, traditional birth attendants, and women and youth group leaders. A total of 19 IDIs, 10 FGDs and 11 KIIs were conducted, and were recorded and transcribed verbatim. Data were coded in NVIVO and analyzed thematically.

Results: Results indicate that though there was good awareness regarding optimal breastfeeding practices, the knowledge is not translated into practice, leading to sub-optimal breastfeeding practices. There are perceived impracticalities of adhering to optimal breastfeeding practices due to a number of social and structural barriers including: (i) poverty, livelihood and living arrangements; (ii) early and single motherhood; (iii) poor social and professional support; (iv) poor knowledge, myths and misconceptions; (v) HIV; and (vi) high fertility.

Conclusions: Various social and structural factors including misconceptions, social policies, socio-economic and socio-cultural factors shape breastfeeding behaviors among urban poor mothers in Nairobi. Interventions should consider the wider ecological setting in order to be successful.

Introduction

Undernutrition is a significant public health concern despite many declarations and action plans aimed at combating it. High levels of undernutrition have been documented in sub-Saharan Africa (SSA) where approximately 40% of all children aged less than five years (56 million) are estimated to be stunted [1]. Undernutrition is associated with adverse short-term and long-term effects on child health, development and survival. It is associated with infections and mortality, mental and motor development, and increased risk of obesity and metabolic diseases later in the life course [2-6].

Causes of malnutrition are grouped into three main categories including immediate, underlying and basic causes [7, 8]. The immediate causes include inadequate dietary intake and health status of the child. The underlying causes include food insecurity, child care practices, health services delivery and environment. The basic causes include economic, political and ideological structures. In line with this model of care, there is a growing recognition of the importance of nutrition in the first 1000 days of life from conception with regards to child growth, health and survival [9]. The global strategy on IYCN highlights the notion that inadequate knowledge about proper foods and feeding practices is often a more important determinant of malnutrition than the availability of food [10, 11]. It is estimated that interventions which promote optimal breastfeeding and complementary feeding could prevent about a fifth of under five deaths in countries with high mortality rates [12, 13]. Poor care practices during the first 1000 days of life have been widely documented in the low- and middle-income countries (LMICs). For example, only about 40% of infants in LMICs are exclusively breastfed for the first six months [14]. In Kenya, only a third of children are exclusively breastfed for the first six months and only about 40% of children aged 6-23 months are fed according to IYCN guidelines [15, 16].

Rapid urbanization amidst poor governance and lack of investment in social and public health services in SSA presents a unique situation with regards to child growth, health and survival. Approximately 62% of urban residents in sub-Saharan Africa live in overcrowded slums and shantytowns [17]. These slums are characterized by poor environmental sanitation and livelihood conditions resulting in higher morbidity and mortality outcomes for children in urban poor settings [18-20]. Forty percent of children under five years are stunted [21]. There is also sub-optimal infant and young child feeding practices that may be key in determining health and nutritional outcomes. Close to 40% of the infants are not breastfed within one hour following delivery, only two percent are exclusively breastfed for the first six months, and 15% stop breastfeeding by the end of one year [22]. Therefore, this study investigates the local contexts and norms and other factors affecting these breastfeeding practices in urban poor settings in Kenya using qualitative data collected from residents in urban slums.

Methods

Study Setting and population

The study was conducted in two slums of Nairobi, Kenya namely Korogocho and Viwandani. These were purposively selected because of the presence of a routine urban Demographic Surveillance System (DSS) which is managed by the African Population and Health Research Center (APHRC) [23]. The two slums are located about 7km from each other. They occupy a total area of slightly less than one km^2 and are densely populated with 63,318 and 52,583

inhabitants per square km, respectively. Since they are not recognized as legal settlements, provision of basic services is a complex issue, yet to be considered a government obligation. The slums have poor housing, no basic infrastructure such as potable water and waste disposal, and they are characterized by high levels of violence and insecurity, unemployment and poor health indicators [18, 22-25]. Viwandani, being located in the industrial area, attracts migrant workers especially males with relatively higher levels of education. The area has a higher proportion of households with only one person compared to Korogocho. Korogocho, on the other hand, has a more stable population and greater co-residence of spouses but higher unemployment levels [23]. There are several ethnic groups in the areas including the Kikuyu, Kamba, Luo, Luhya and Somalis, with Swahili spoken across all ethnic groups as a unifying language. While each ethnic group harbours specific cultural norms, beliefs and practices with regards to maternal, infant and young child feeding, these have been watered down by inter-cultural ethnic relationships and 'urban life'.

Data collection

In April 2012 a total of 19 in-depth interviews (IDIs), 10 Focus Group Discussions (FGDs), and 11 Key Informant Interviews (KIIs) were conducted in Korogocho and Viwandani. In total, there were 110 participants including 20 men and 90 women from the following categories: (i) women of reproductive age who were either pregnant, breastfeeding or had children under the age of five; (ii) community leaders including village elders, women leaders, youth leaders and religious leaders; (iii) health care professionals; (iv) community health workers; and (v) traditional birth attendants (TBAs). Other characteristics of the respondents are given in Tables 1 and 2.

>>Table 1 & 2 about here<<<

The study used open-ended questions, with focus on getting deeper understanding regarding the local contexts and norms, which contribute towards decision-making for maternal nutrition, breastfeeding and other infant and young child feeding practices. Pictures of children depicting nutritional status and of foods were used to stimulate responses. Questions included perceptions on the nutritional status of the majority of infants living in the local community, knowledge, attitudes, and practices with regard to maternal, infant and young child nutrition (MIYCN) including initiation of breastfeeding, use of colostrum, exclusive breastfeeding, duration of breastfeeding and complementary feeding. Additionally, questions focused on the contextual and socio-cultural norms that influence the practices. Socio-demographic characteristics of the participants were recorded ahead of the interviews or focus groups discussions.

Interviews were conducted by 10 experienced field interviewers (seven females and three males) with undergraduate training in nutrition, public health, sociology or anthropology. Pilot interviews were conducted during the training sessions. Debriefing sessions were held to ensure consistency of meaning to questions. New issues and emerging themes for example regarding breastfeeding for HIV positive women were added to the interview guide and explored in subsequent interviews. Some of the researchers accompanied the field team in pilot interviews and participated in the debrief sessions. There was always an interviewer/moderator and a note-taker in each interview or focus group discussion. Interviews were done in Swahili. All interviews were audiotaped and transcribed verbatim. Concurrent transcription and translation was done by two graduates with good experience in anthropology and transcription who had participated in the training of the interviewers and the pilot sessions.

Ethical Considerations

The study was granted ethical approval by the Kenya Medical Research Institute (KEMRI) Ethical Review Committee, which is recognized and approved by the Government of Kenya. All the investigators have had research ethics training. Participation was voluntary, and informed consent was sought from all the respondents.

Data analysis

Themes were developed from literature and from the narratives from the respondents. The researchers familiarized themselves with the data by listening to audio tapes and reading the transcripts. Transcribed Word files were imported into NVIVO 10 software (QSR International Pty Ltd) which helped to identify primary and meta codes and major themes. Coding and interpretation was done by two members of the research team to ensure objectivity and to check for consistency in application of the coding process. Final checks for understanding and consistency of the application of the codes were undertaken with a third member of the research team. Analysis across all transcripts was done thematically [26].

Results

Knowledge, perceptions and practices regarding breastfeeding

Generally, there was widespread knowledge regarding the optimal breastfeeding practices across all the different categories of respondents involved in the study. Respondents were aware of the benefits of immediate initiation of breastfeeding after birth and exclusive breastfeeding for six months. However, there were also some gaps in knowledge, myths and misconceptions regarding breastfeeding.

***Immediate initiation of breastfeeding*:** There was general consensus that children should be given breast milk immediately after birth if there are no maternal complications such as caesarean section birth and mother's illness. Positive views regarding colostrum were expressed:

> "*For me I used to see it being expressed out before the baby is breastfed. But recently I see them breastfeeding the babies on it. I don't know because they are saying its medicine, I can't know because I am a man*" (FGD, Community Health Workers, Korogocho).

Exclusive breastfeeding: There was general consensus that children should be breastfed exclusively for the first six months among the majority of the respondents. Some of the reasons given were: "that is what the doctors say"; "the mother's milk has everything; always ready and uncontaminated", "children grow well and are healthier", "it will even save one from the hospital bills", "children become very clever", "the mother gets back to shape quickly", and "it helps in family planning". However, some queried the logic behind the duration being six months: "those six months are important because even in the hospital they emphasize on exclusive

breastfeeding for six months … *I don't know why they decided on the six months. Maybe there is a research they did and found it important"* (FGD, Young Mothers, Korogocho).

While some respondents indicated that children in the study communities were breastfed exclusively for the first six months: *"mostly in my village it's after six months they start giving it water, milk, or mashed potatoes and they put in a little salt" (FGD, Community Health Workers, Korogocho), o*thers said*: "most women do not care and will breastfed for about 2-3 months after which, they start giving foods."* (KII, Youth leader, Viwandani).

Some health care professionals indicated that mothers often lie that they were exclusively breastfeeding. Respondents stated that exclusive breastfeeding is not practical in the slum settings; "*the one which is recommended is six months, but here that six months does not happen… After one month the mother takes the baby to baby care center and she goes to work… Will she stay in the house and she has nothing to eat?*"(FGD, Village elders, Viwandani). In these cases foods other than breast milk can be given within the first one or two weeks, "*even one week is too long, some even start after three days*". Water, water with glucose, salt and/or sugar, milk, soup, fruits, light porridge and mashed foods were given from an early age as they were considered easy for the baby to eat. Children were also fed with pre-lacteal foods.

> *"Before the milk comes, you are told to wipe the breasts with warm water. … If a child is born and the mother still doesn't have milk it should be given cow milk.… I see some giving the baby water with sugar… When I gave birth to my twins I didn't have enough milk. So one child was breastfeeding on one breast and the other one was breastfeeding on another breast. Milk wasn't coming out so I was forced to buy glucose, boil water and mix. I put it in bottles and gave them. So they fed on that for about one week before my breast milk started coming out". (FGD, Young Mothers, Korogocho)*

Continued breastfeeding: With regards to the duration of breastfeeding, there were mixed views as to how long children should be breastfed. Duration of breastfeeding was said to be highly variable with some not breastfeeding at all, others breastfeeding for a few months, others for a year, two years and others beyond two years. The shortest duration was among young mothers, working mothers, and women participating in commercial sex work.

Factors affecting breastfeeding in urban slum settings

Various social and structural barriers were said to influence breastfeeding practices, hence making it impractical to actualize the WHO recommendations for breastfeeding. These factors are organized thematically to include: (i) poverty, livelihood and living conditions; (ii) early and single motherhood; (iii) poor social and professional support; (iv) poor knowledge, myths and misconceptions; (v) HIV; and (vi) High fertility. These barriers are discussed in detail below.

Poverty, livelihood and living conditions

Mothers were reported to resume work shortly after birth, as "the way of life is hard nowadays, one is forced to go fend for themselves whether they have a baby or not" because "the baby won't eat the name 'good care'", and the mother and her family must also survive. Women work long hours, in non- conducive environments for carrying babies to work or breastfeeding. The child is therefore left behind either under the care of siblings, other relatives, neighbours or at a (sub-standard) day care Center.

"Nowadays, mothers take their children to baby care Centers even when they are one month. This child is started on foods when the stomach is not yet strong for food and so the intestines will expand. The baby care attendant cannot take good care of the child since she has about 20 of them to look after. Baby care Centers are the reason why children are malnourished especially in our village since the Centers have many children; a mother is better off looking for someone to take care of the child in the house" (KII, Traditional Birth Attendant, Viwandani).

Expressing breast milk to feed the baby was not a common practice and in some instances it was considered culturally unacceptable. However, a few mothers had attempted to express, but either did not yield much, or it was too painful. Some expressed milk to throw away if the breasts were too full, while others indicated that mothers should express and give the milk to the baby if the breasts had sores. Expressing of breast milk was generally associated with young girls as "they believe that when the child breastfeeds (directly) the breasts will sag."

"I have never heard of mothers expressing breast milk. But we tell them as they continue breastfeeding, to alternate the breasts which baby breastfeeds and to express milk when the baby is asleep. They refuse and say culturally it's not right to express breast milk. They say the ancestors will be angry (if they express) then milk will reduce" (KII, Health Professional, Viwandani)

Therefore the only viable option for working mothers was to leave breast milk substitutes especially cow milk and porridge for their babies regardless of their age because formula milk was considered too expensive: "The money! Will you pay rent or buy milk? ...The price is too high!" (FGD, Young Mothers, Korogocho). Children of working mothers were said to forget how to breastfeed or refuse to breastfeed as they stay for long hours without breastfeeding, so "they are used to the grandmother and are not interested in the mother".

"Sometimes stopping breastfeeding early is because a mother has five other children to take care of. She has to go out and hustle for what they will eat. In most cases she will stop breastfeeding since she cannot carry the baby to work" (FGD, Village Elders, Viwandani).

Some respondents indicated a need for paid maternity leave, in line with the constitution, to allow women to breastfeed optimally, while others recommended material support for mothers to enable them time to breastfeed.

Commercial sex work was mentioned as an important source of livelihood in these communities; "you find there is a lot of prostitution". This work was not considered conducive for breastfeeding as women feared that the baby would get used to breastfeeding, and the business would be affected. There was also a fear of milk leaking off the blouse, breasts would sag/flatten, or they would age faster, which would make them less marketable. Finally, commercial sex work was demanding with regards to time. Sometimes infants were given sleeping pills or alcohol to make them sleep the whole night while mothers worked.

"They don't even have time ... when going for dates or as commercial sex workers, they leave the child with a friend who may not take good care of the child. Sometimes they give alcohol to the child for overnight escapades; this way the child is locked in the house, will sleep and will not even feel hungry till they return in the morning" (KII, Women leader, Korogocho).

Food insecurity: Exclusive breastfeeding for six months was said to be only for those who eat well. There was a general feeling that mothers do not eat enough food as there is limited food in the household, and therefore are not able to produce enough milk.

> *"…And many if you ask them, they will ask you how they will breastfeed and they haven't eaten. And if you look at the breasts, they have flattened and are sagging and they are girls, they haven't eaten… You can give them advice the way we've said, but if you go to their house they have nothing to eat. So even if you tell them to breastfeed, first of all that milk is not there because there is no food in the house."(FGD, Village Elders, Viwandani)*

Living arrangements: The small (10 by 10 feet) multipurpose one-roomed houses, often accommodating all of the household members, do not offer a conducive environment for breastfeeding. The option of the mother sleeping with the baby on the same bed sometimes raises conflict with her spouse as the bed is also small. Mothers are often forced to stop breastfeeding pre-maturely.

> *"The type of house, in this case the one room structures in this community, may make the mother to stop breastfeeding. The rooms are small and everything is cluttered within it, a bed next to another and they serve as the kitchen, bedroom, and sometimes the bathroom. If the baby cries at night to breastfeed, it disturbs everyone and the mother may decide to stop breastfeeding early" (FGD, Village Elders, Korogocho)*

Alcoholism: Male alcoholics neglect the family and domestic violence is common causing a lot of stress to the breastfeeding mother. Women become the bread winners and hence have no adequate time to breastfeed. Alcoholism in women makes them neglect their children, as "she (the mother) will come and sleep (after drinking), and when she's sleeping the child will be crying outside".

> *"Here in Korogocho I can say it is because of the prevailing problems. Even if you have a husband, he is jobless and many times when you go to these houses it is mostly the women who work. Most men don't work; they are just drunkards and do casual jobs…The mothers will have no choice but to stop (breastfeeding) so as to look for work in order to feed themselves. Even the stress, tiredness, you will find that when the mother reaches home she is not even able to breastfeed. Most of them know the importance but you will just hear someone tell you they are forced (to stop breastfeeding)". (KII, Traditional Birth Attendant, Korogocho).*

Alcoholism was also considered important for HIV positive women as they are required to take ARVs, but when drunk they forget the medication:

> *"What we have seen a lot in this village, you find a mother is HIV positive, she is breastfeeding and is still taking alcohol. A mother who has taken alcohol will not remember to take her medication, the baby will also be crying and so will just be breastfed." (FGD, CHWs, Korogocho).*

Early and single motherhood

Teenage motherhood, said to be rampant in the area was considered a key factor in breastfeeding practices. The Young and single mothers were said to be highly concerned about body image which influenced their breastfeeding practices.

"There are many 'dotcoms' (young girls – born in the era of internet) in this community, sometimes we call them 'face value'…or 'Facebook'…The youths do not like to breastfeed and so will take their children to baby care Centers. They buy ready-made rice to be given to the child, this is not nutritious food and so the child does not gain, in fact the child feeds like an adult. If you tell them to breastfeed up to six months they disagree as they claim the breasts will sag" (FGD, Community Health Workers, Viwandani).

They were also said to be often still in school or "have busy lifestyles" as they still have many friends, and are still looking out for fun, as "this is a 'ghetto' (slum) and the young girls still want to go and have fun with men". Some girls do not even initiate their babies on the breast, as introducing the baby to breast would mean the baby would get too used to the breast yet they need to go back to school or continue with their busy lives.

"Here in Korogocho, there are many girls who give birth while still in school, so they start the baby on bottle feeding or porridge so that they can go back to school. I have seen that from my neighbor… Girls in this area don't have a particular plan because they live with their mothers; they go loitering and come back in the evening. They don't know if the baby has eaten or not. So it's their mothers who struggle with the babies… Some don't have someone to leave their children with at night. So they give the babies Piriton (a sedating antihistamine) at night and they go ... I think it's hard giving birth when you are young because you haven't had fun… You find a girl disappears even for a week then comes back and she is not questioned." (FGD, Young Mothers, Korogocho).

Because young mothers are also often single mothers with no other source of livelihood, they get involved in commercial sex work to make ends meet, so "most of the children who are not healthy belong to young girls in this community since they are more concerned with work."
Another key issue related to young motherhood was self-efficacy and confidence with regards to breastfeeding and "when the child wants to breastfeed they feel afraid".

"They mostly have fear of breast feeding, this fear makes them not breastfeed because of fear of being seen breastfeeding since they are still young, and to remove the breast in public will be difficult". (KII, Youth Leader, Korogocho).

They reported not knowing how to attach the baby to the breast: "there is an angle babies are placed when breastfeeding and those young ones don't know" (FGD, Village Elders, Viwandani). Like the one who gave birth when she was 14 years, the breast became sick and she gave the child infant formula … Even mine used to breastfeed on one breast, and the other one had more milk hence became sick. (KII, Women Leader, Viwandani). Additionally, breastfeeding practices among girls were said to be influenced by peer pressure: "The others will tell her that the child is big and ask why she is still breastfeeding … So their duration of breastfeeding is maybe one year and most of them don't want to exceed" (KII, Traditional Birth Attendant, Korogocho).

Given all these factors, many girls opt not to initiate breastfeeding, or do not breastfeed optimally as "a girl's child eats what the girl eats. If she buys chips then the baby will eat those chips".

Infant feeding practices among girls were said to be strongly informed by their own mothers who may not be well informed about optimal breastfeeding practices. However, some parents were

said to reinforce breastfeeding among these girls: “The parent is the one to insist for her to breastfeed… Most of the work is the parent’s responsibility”. (FGD, Village Elders, Korogocho).

Poor social and professional support

Poor social support: Lack of adequate social support at the household level was considered a key barrier to optimal breastfeeding practices. Some men considered the issue of breastfeeding as a “women’s issue”, yet they were said to be the main decision makers with regards to maternal and child care and avail money to access health care. They sometimes have strong opinions that go against optimal breastfeeding practices and “women would listen to their husbands before anybody else”. Some husbands were said to be unsupportive to the women when drunk because they would quarrel a lot. Others compete for attention with the baby and sometimes ask the mothers to stop breastfeeding as they think they do not get enough attention.

Mothers have no time to rest and recover from delivery, and were often stressed because of too much work in the house. Unlike their rural counterparts who may have relatives stepping in to help, or the richer women in non-slum settings who may afford paid help, women in the slums often have no one to help with daily chores. Some women start on the chores immediately after delivery.

> *“Most women here wake up and work and forget they have a baby. By the time they remember they have a baby, there is no milk in the breast. So mostly, those who have milk are those who have maids so the maids work while they relax… There are men who don’t give their wives time to rest…there are some men who don’t care, as long as there is the woman in the house, they don’t get tired, they want sex every time.” (FGD, Community Health Workers, Korogocho)*

Poor professional support: It was reported that many women do not access maternity care services at standard health facilities. They often deliver at home or at sub-optimal clinics and therefore do not access the counselling and support on breastfeeding. Additionally, there were reports that health care professionals are often too busy to offer breastfeeding counselling to mothers.

> *“Now you’ll find the problem which is here, is that the child is born and after one month it is given these adults’ foods. That is one problem and it is as if the mother doesn’t know… Most children are born just here at home... The mother didn’t even go to the clinic, she was not taught about how to take care of the child, she doesn’t know if she is (HIV) positive or negative”. (FGD, Village Elders, Viwandani)*

Poor knowledge, myths and misconceptions

With regard to feeding babies on colostrum, while most people were said to hold it in high regard, some people delay initiation and others do not give colostrum to the baby because they do not know of its importance. While “some say it is dirt”, some people believe it is just water, and would therefore give babies pre-lacteal foods as they await the “real” milk. According to the respondents, among some social groups such as the Sukuma people who migrated to the slums from Tanzania, colostrum is not given to the baby as it is considered to cause diseases such as leprosy or eye disease.

With regards to the period of exclusive breastfeeding, some people believe a little water and sugar/glucose and/or salt or commercially prepared mixture of water (gripe water), is good for the baby as this would protect the baby from stomach problems. Some community health/social workers also hold this belief:

> *"I cannot be clear about age but water should be introduced when the child is about two months. The mother should give about two spoons of water at this age, a requirement not practiced by people in this community; when we do our rounds, you come across a mother with a whole bottle of water alongside that for milk to be given to the child." (KII, Traditional Birth Attendant who doubles as a community health worker, Viwandani).*

Some people believe that breast milk alone is not adequate for the baby especially boys. They cry excessively due to hunger and once they are given food, they stop crying. The size of the baby at birth was also considered important; children born larger than normal were thought to need more than breast milk so "you are forced to give other foods like porridge even before one month". The focus group with older mothers reported that if you exclusively breastfeed the baby for six months, the baby will have problems when initiating foods, so it is better to initiate other foods slowly even before the end of the first six months.

Religious teachings sometimes determine breastfeeding practices. For example, according to the Quran, a child should be breastfed for exactly two years, but one should not exceed the two years even by one day. There were also beliefs that if a child breastfeeds for too long, they would become foolish, while others believe that if a child has delayed walking, if you stop breastfeeding the baby will start walking. As noted earlier, others considered breastfeeding as a way of family planning and to conceive they must stop breastfeeding first. There were also beliefs that if one falls pregnant, they should not continue breastfeeding as this will have negative effects on the breastfeeding baby. Other people believed that one should not continue breastfeeding if they have sex with a man who is not the father of the child as this will drastically affect the breastfeeding child as the child may get "chira" (cultural disease) and become thin. This is particularly important given that commercial sex work was said to be common in this community.

Other beliefs and myths included: "if you breastfeed in public, a person with an "evil eye" may look at you and this may cause your breasts to have sores", "if you quarrel with your husband or a neighbor, you cannot breastfeed until a cultural ritual (Manyasi) to cleanse you and the baby is performed", "breastfeeding a baby after a gap of a whole day may cause illness to the baby such as diarrhea."

HIV

HIV, which is prevalent in the study setting, was also considered an important factor affecting breastfeeding practices. Some people who are HIV positive or those who do not know their status fear to breastfeed their children due to risk of mother to child transmission of HIV. There were mixed views among the various respondents regarding how HIV positive women should breastfeed, with some suggesting that an HIV positive woman should not breastfeed at all, others that she should exclusively breastfeed for six months or one year. Most respondents believed that an HIV positive mother should not mix breastfeeding with food for fear of infecting the child: "If you decide its food you give it food, if you decide it's breast milk you give it breast for six months; do not mix; if food, food only without breast … (otherwise) you will infect the

child." Therefore, even if the child is breastfed exclusively for six months, breastfeeding should stop completely when it is time to start giving foods.

There is a high level of stigma associated with HIV and people often associate exclusive breastfeeding with HIV, as previous counseling regarding breastfeeding by health care workers has emphasized strict exclusive breastfeeding followed by rapid weaning for HIV positive women. Many people therefore would avoid exclusive breastfeeding even those who are HIV positive so that they are not associated with HIV and some were said to brush off advice on exclusive breastfeeding by saying they are not HIV positive:

> *"If I go and tell my friend not to give the baby food but breastfeed she will answer me back rudely and claim I think she has HIV. So it's good people like you to tell them … Some people believe those who breastfeed exclusively for six months are the mothers who are HIV positive." (FGD, Young Mothers, Korogocho).*

High fertility

The respondents indicated that some children are not breastfed optimally due to high fertility as many people believe that one should not breastfeed while pregnant as this would affect the baby including causing death to the baby.

> *"What I have heard is that if a mother conceives again when the baby is still young, say if the baby is one year and the mother conceives, she will not continue breastfeeding this other one. They say, according to traditions, the baby which is breastfeeding will die. So when they realize they are pregnant even if the other one is six months, they stop. You know there are those who conceive after three months"? (KII, Health Professional, Viwandani).*

There were many beliefs associated with family planning which may be the reason for high fertility. Some people believe that one cannot conceive while breastfeeding, hence they do not use modern contraceptives when breastfeeding and they often end up with unplanned pregnancies. Conversely, if they want to conceive, they stop breastfeeding:

> *"Some mothers use breastfeeding as a method of family planning and there are some men who just want children. Maybe you gave birth to a baby boy and he wants a girl. So you are forced to stop breastfeeding the baby so that you can conceive again". (FGD, CHWs, Korogocho)*

Other people believe that modern family planning methods would harm them, e.g. reduce milk production, change the colour of the milk, reduce sexual urge, or make people become fat. Some believe that family planning methods may harm the baby causing short-term (illness) and long-term damage (infertility) to the baby as the baby "can suckle it (contraceptive) from the breasts."

> *"Say when using family planning drugs and if the baby becomes big it can suckle that from the breasts and it becomes sick. We just say if the baby reaches two years you should not breastfeed because that family planning drug can harm your child. Some say that a child will not bear children when it grows up, if it has reached one year and suckles your breasts which have the drug. We say your child will not bear children. (KII, Religious Leader, Korogocho)".*

Discussion

This study has examined breastfeeding practices and the factors affecting actualization of the WHO recommendations for breastfeeding practices in urban poor settings in Nairobi Kenya. An earlier study which used quantitative data from the two study settings reported on factors affecting infant feeding practices [22], but it did not explore in detail the socio-cultural barriers to optimal breastfeeding which are described in the current study. Much as the respondents in this study showed awareness of optimal infant and young child feeding practices, the practical realities were that it was not always possible to adhere to good practices because of firmly held cultural beliefs, poverty, and living conditions.

Ecological conceptual frameworks are important in guiding interpretation of research findings or for effective planning and implementation of public health interventions aimed at protecting, promoting and supporting breastfeeding. One such framework is the conceptual framework of factors affecting breastfeeding practices developed by Hector and colleagues [27]. We adapt this framework to summarize our study findings in a draft conceptual framework (Figure 1). Like Hector and colleagues' model, our conceptual framework proposes three levels of factors that influence breastfeeding practices in the urban sum settings: individual level factors, relating directly to the mother, child, and the 'mother-child dyad', group level factors, constituting the attributes of the environments where the mother and the child live which enable the mother to breastfeed, and the society level factors which influence the acceptability and expectations regarding breastfeeding and provide the context for breastfeeding. Although this Hector and colleagues' model was developed based on experiences of high income countries, findings of the current study seem to fit well with the model. However, factors affecting breastfeeding in urban poor settings seem a bit more complex as it seems that some factors cross over the different levels and it is difficult to pin the factors to only one specific level. Such a factor is for example alcoholism which fits all levels: at the individual level where some mothers were said to be alcoholic, at the group level as many men (spouses) were said to be alcoholic, leading to unconducive environment for breastfeeding in the household as the men are not supportive of the breastfeeding mothers; and also at the community level as the issue of alcoholism was said to be a society problem, rampant in the study setting. This framework may guide generation of hypothesis regarding factors affecting breastfeeding in urban poor settings that can be tested in future, and guide interventions to improve breastfeeding practices and consequently child nutrition in urban poor settings.

Poverty, livelihood and living conditions featured very prominently in this study as key factors influencing breastfeeding practices among urban poor women. In the previous study [22], respondents indicated that one key reason for not breastfeeding optimally was inadequate breast milk. In the current study, respondents associated inadequate breast milk, hence early initiation of complementary foods to lack of adequate food for the breastfeeding mothers to eat as also found in other studies such as in the slums in India [28]. Household food insecurity is rampant in the study area, with only a fifth of the households being reported as food secure, and nearly half of all households being food-insecure with both adult and child hunger [29]. While health education needs to unravel the myths relating to inadequate food for the mother to eat and breast milk production, which is usually a hormonal process, there is need to address the issue of food insecurity in the study setting to ensure good nutritional status and health for the mothers, which may result in good child feeding and general care [7, 8].

In the context of rampant poverty in the study settings, livelihoods and nature of work for the breastfeeding mother were considered key in determining breastfeeding practices, affecting both duration of exclusive breastfeeding and duration and quality of any breastfeeding. Mother's

occupation has also been identified as a factor influencing breastfeeding practices in other settings [30, 31]. Privileges taken for granted in the formal employment sector such as the 90 days paid maternity leave are non- existent in the urban poor on casual employment. In these urban poor communities, residents mostly work as casual laborers in neighboring factories or as domestic workers in nearby middle income estates. They earn a limited income and are therefore not able to keep savings to use during times of need such as after delivery. There is no paid maternity leave for the women in this casual labour system as happens in the formal labour system. Mothers have to resume work shortly after giving birth, especially because they need money to cater for themselves and their families. Expressing of breast milk, which would partly help deal with the problem was uncommon or unacceptable in the study settings. There is need for awareness regarding how to manage breastfeeding even when the mother is separated from the baby, including expressing, and safely storing the expressed breast milk. Revision of labour laws to accommodate casual labourers and social protection measures such as cash transfers for breastfeeding mothers in urban poor settings are warranted.

Early pregnancies, closely linked to single motherhood and high fertility in the study community were considered major determinants of breastfeeding practices. The young mothers in the current study were said not to know how to breastfeed, not to have self-confidence in breastfeeding, or to care about their body image hence not to want to breastfeed at all as they often engaged in sex for survival. They were said to have very poor child care practices. Evidence indicates, from a census of all births that happened in the study area over a period of five years from 2006 to 2010, that slightly over half of the births are by youthful mothers aged less than 25 years [22]. This indicates the magnitude of the problem of early pregnancies. Previous studies in the study setting have indicated early sexual debut, with a substantial proportion (close to 10%) of adolescents being sexually active before the age of 15 years [32]. Similar findings have been reported in other urban settings in sub-Saharan Africa [33]. This level of early sexual activity is occasioned by the rampant poverty, with adolescent girls often engaging in sex for survival, as reported in this study, and rhetoric involving contraception is absent among the girls despite prevailing perceptions of unwanted pregnancy (Kimani-Murage et al. unpublished). There is need to ensure access to information about contraceptives and the access to the contraceptives themselves through youth friendly reproductive health programs. Further, there is need for early education on maternal, infant and young child nutrition, possibly starting from primary school, and provision of access to readily available professional support to young breastfeeding mothers, possibly through community based breastfeeding support programs.

HIV/AIDS, highly prevalent in the urban slums at 12% [34], approximately twice the national prevalence and the prevalence for Nairobi as a whole was considered a major determinant of breastfeeding practices. There is mixed understanding regarding breastfeeding for HIV positive women due to the confusion caused by the ever changing recommendations regarding breastfeeding for HIV positive women, as also documented elsewhere in sub-Saharan Africa [35]. There is also stigma associated with HIV/AIDS, which affects practice for women living with HIV and the uninfected women. For example exclusive breastfeeding is often regarded a reserve of HIV positive women, therefore HIV positive women prefer to hide under mixed feeding like most other women do, while the HIV negative women do not want to exclusively breastfeed so as not to be suspected as HIV positive. HIV stigma related to breastfeeding has also been reported in other urban areas in sub-Saharan Africa [35, 36]. There is need to ensure correct and consistent messaging on breastfeeding for HIV positive women, through frequent awareness of health care workers and the community at large on the recommended practices. Additionally, there is need for creation of awareness at the community level on the importance

of exclusive breastfeeding amongst all mothers and not just for HIV-positive ones to reduce HIV-related stigma associated with exclusive breastfeeding.

Poor social and professional support was reported as key factors in determining breastfeeding practices in the study setting. At household level support comes from the spouse yet in this study the men often regarded breastfeeding *"a women issue"* which indicated ignorance on their part. At the same time they were said to be the main decision makers with regards to maternal and child care issues. The men at the household have strong opinions that go against optimal breastfeeding practices. It is therefore important to create awareness amongst the men regarding optimal breastfeeding practices. It is generally assumed that the mothers who attend and deliver at health facilities would get information at the health facility but the report that health care professionals are often too busy to offer breastfeeding counselling to mothers is disturbing and may explain some of the misconceptions and poor practices seen in this community. For example, the findings with regard to relationship between breastfeeding, family planning and the health of the child reveal a lot of misconceptions and lack of knowledge which may be responsible for the high fertility in this community. Such misconceptions could be addressed through the maternal and child health and Family planning (MCH-FP) clinics. It was also a bit surprising to note that some community health workers are also not strict about the advice regarding exclusive breastfeeding with and sometimes advice the mothers to give a little water.

The strength of this study is the variety of respondents who were fairly representative of the community – it included men and women, different religions as well as different age groups and ethnic groups. The opinions expressed therefore can be a reflection of what really happens within this community. The study was therefore able to bring out many important issues and difficulties the mothers face that need to be addressed in order to improve infant feeding practices. However a negative belief is not easily replaced by a viable plausible option. Example of mothers who have successful exclusively breastfed their babies within the same community may be one way of convincing people that it can work. On the positive side there is good knowledge on some of the necessary practices. So the intervention process will need to be tailored to this and find ways of overcoming obstacles/hindrances. There is need to bring support close to mothers through interventions such as home-based counselling by community health workers and formation of mother support groups. Counselling that includes practical skills as well as sensitizing household members about supporting and accommodating the breastfeeding mother may be a first step in this process. But for urban slum settings, approaches aimed at improving breastfeeding practices must consider the wider ecological setting in order to be successful.

In conclusion, this study finds that a set of factors including misconceptions, socio-economic, socio-policies and socio-cultural factors are perceived to shape breastfeeding behaviors among urban poor mothers in Nairobi. The study reveals that women in urban poor settings face an extremely complex situation with regards to breastfeeding as the embody multiple challenges and risk behaviours often dictated to them by their circumstances. The reality is that they are unlikely to change their circumstances. While interventions focusing on individual behaviour change may dispel some of the myths and misconceptions regarding breastfeeding, macro-level policies and interventions are needed. Such macro-level policies and interventions may include revision of labour laws regarding maternity leave in favour of casual labourers, provision of social protection measures for urban poor breastfeeding mothers, provision of youth friendly family planning services, and incorporation of MIYCN training in school curricula. There is also need for community-wide awareness of the need to support breastfeeding mothers within their communities. Spousal support is particularly important and should be promoted alongside male

involvement in maternal and child health issues as it was evident from the interviews that men shy away from involvement in these issues. Given the importance of nutrition in the first 1000 days of life (during pregnancy and in the first two years after being born) to the child's health, growth, development and survival and future economic productivity, interventions targeted at child health, survival and wellbeing need to start early in life. Failure of intervening early may lead to long-term economic consequences and increased health burden.

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Acknowledgements

Table 1: Interviews by type and category

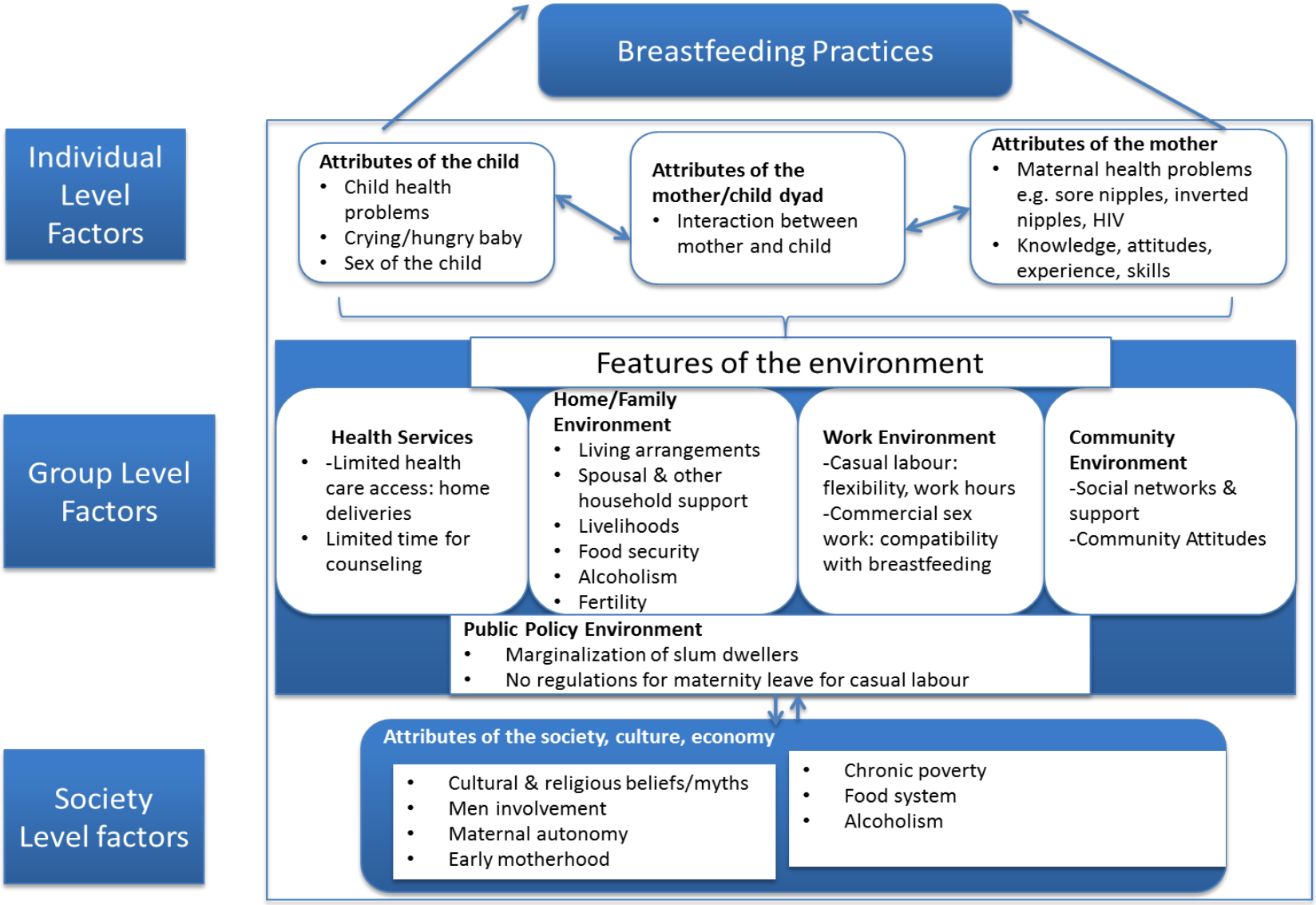
	Korogocho	**Viwandani**	**Total**
By Type of interview (n=interviews)			
IDIs	11 (3 mock)	8	19
FGDs	6 (2 mock)	4	10
KIIs	6 (1 Mock)	5	11
By Category (n=interviews)			
Pregnant mothers	2	1	3
Young Mothers FGDs	2	1	3
Breastfeeding mothers	2	1	3
Breastfeeding Mothers of children Under five years	2	1	3
Breastfeeding Mothers of Children Under 2	1	1	2
Older mothers (25+ years)	2	1	3
Breastfeeding Young Mothers (U2)	2	2	4
HIV positive women - IDIs	2	2	4
Community Leaders/Village Elders - FGDs	1	1	2
CHWs - FGDs	1	1	2
Health Professionals - KIIs	1	1	2
TBAs - KIIs	1	1	2
Religious Leaders – KIIs	1	1	2
Women Leader	2	1	3
Youth Leaders	1	1	2

Table 2: Socio-demographic characteristics of participants

Socio-demographic characteristics (n=individuals)	**Men**	**Women**	**Total**
Age			
Mean age	41.8	29.3	31.58
<25 years	1	39	40
>= 25 years	19	51	70
Religion			
Christian	17	71	88
Catholic	2	3	5
Muslim	1	14	15
Missing	0	2	2
Ethnic Background			
Kikuyu	2	25	27
Kamba	5	17	22
Luo	4	23	27
Luhya	4	9	13
Somali	0	4	4
Other	5	12	17
Education status			
None	0	7	7
Pre Primary	4	11	15
Primary	4	50	54
Secondary	7	18	25

Secondary+/ College	5	4	9
Occupation			
Casual worker	0	11	11
CHW	1	9	10
Health Worker (Nurse, CO)	1	2	3
Jua Kali	4	2	6
Social Worker/ Religious Leader	3	0	3
Self-employed/business	7	25	32
Community leader	4	0	4
Not working (including housewife, student)	0	37	37
Missing	0	4	4
Marital Status			
Married	18	50	68
Widowed	0	4	4
Not married/Single/Separated	2	34	36
Missing	0	2	2
Slum			
Korogocho	8	59	67
Viwandani	12	31	43

Figure 1: Conceptual framework of factors affecting breastfeeding practices in urban slums



Adapted from Hector et al, 2005