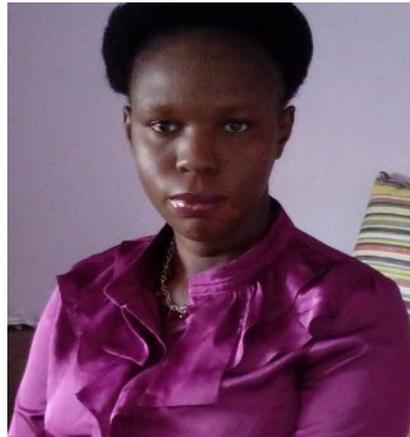


**THE THEORY OF PLANNED BEHAVIOUR IN EXPLORING DIETARY
DIVERSITY PRACTICES AMONG MOTHERS IN INFORMAL
SETTLEMENTS IN KENYA**

Anyango LJ^{1*}, Waswa J¹, Okeyo DO² and M Mugambi¹



Anyango Loyce Joyce

*Corresponding author email: joiloy42@yahoo.com

¹Department of Human Nutrition & Dietetics, School of Health & Biomedical Sciences
Technical University of Kenya

²Kenya Nutritionist & Dietetics Institute



ABSTRACT

One of the leading causes of malnutrition, which contributes to morbidity and mortality in children, is lack of dietary diversity. Despite remarkable improvement in exclusive breastfeeding in Kenya, there are still poor dietary diversity practices among children aged 6-24 months. Limited studies have applied the Theory of Planned Behaviour (TPB) to examine the factors that influence dietary diversity practices in informal settlements in Kenya. The objective of this qualitative study was to explore behavioral, normative, control beliefs, intention, and dietary diversity practices, based on the TPB. The study sites were Kibera in Nairobi, Manyatta A in Kisumu, and Kaptembwo in Nakuru. Participants were 64 mothers of children aged 6-24 months selected using purposive sampling. Nine focus groups, each comprising of 5-10 mothers were conducted and the data analyzed using thematic analysis. Using a focus group guide, based on the TPB, mothers described salient beliefs regarding their attitude, subjective norms and perceived control of dietary diversity. Analysis of the data showed that some mothers had intended to introduce solid foods at six months. However, barriers such as mother not feeding well, baby's hunger, perceived insufficient breast milk production, and return to work led to earlier introduction of foods. Most mothers indicated their intention to give a variety of foods to their children but were hindered by barriers such as poverty/inadequate money, non-availability of food at home, and inadequate knowledge about complementary feeding. Friends, health professionals, fathers, neighbours and friends were cited as most salient referents that influenced the dietary diversity practices. The most frequently provided starchy foods were *chappatis*, *mandazis*, potatoes, rice, *weetabix*, porridge, and ugali. In conclusion, the results indicate that mothers had positive attitude towards dietary diversity. The 'significant others' who mostly influenced dietary diversity practices were health professionals, fathers, and friends. Future interventions need to target mothers' perceived child-feeding responsibilities, influence subjective norms, and increase parents' perceived control over child feeding.

Key words: child, dietary diversity, mothers, theory of planned behaviour



INTRODUCTION

Optimum infant feeding practices include exclusive breastfeeding (EBF) in the first six months of an infant's life, timely and appropriate introduction of complementary foods to children around six months of age and continued breastfeeding (BF) until two years of age or beyond [1]. Although exclusive breastfeeding rate in Kenya has improved (from 33% in 2008 to 61% in 2014), the progress in complementary feeding has been low especially in urban informal settlements [2]. Only 22% of children aged between 6-23 months met criteria for a minimum acceptable diet [3]. In addition, only 2% of children in urban slums in Kenya were exclusively breastfed for the first six months [4]. To address sub-optimal breastfeeding practices such as in exclusive breastfeeding, the Kenyan government has implemented the Baby Friendly Hospital Initiative (BFHI), which highlights promotion of breastfeeding in hospitals. The Baby Friendly Community Initiative (BFHI) has also been implemented at the community level.

Understanding what factors influence food choice of mothers for their children is critical to developing successful strategies to improve children's diet and nutritional status. Previous research examined socio-demographic factors related to infant feeding such as child sex, mother's marital status, ethnicity, and level of education and place of delivery in informal settlements in Kenya [4]. While socio-demographic characteristics of mothers are informative, they are often non-modifiable and remain stable over long time. The Theory of Planned Behaviour (TPB) is a well-validated model that allows for a detailed and in-depth analysis of the psychosocial factors influencing intentions and behavior [5]. The TPB [6] states that human behavior is, determined by intention, which in turn predicts attitude (perceived advantages/disadvantages), subjective norms (significant individuals who would approve/ disapprove of the behaviour), and perceived behavioral control (facilitators/ barriers) (Figure 1). Most studies have applied the TPB [6] to examine initiation, duration and exclusivity of breastfeeding particularly in western societies [7, 8]. Therefore, this study aims at applying the TPB to explore diet diversity practices in informal settlements in Kenya.

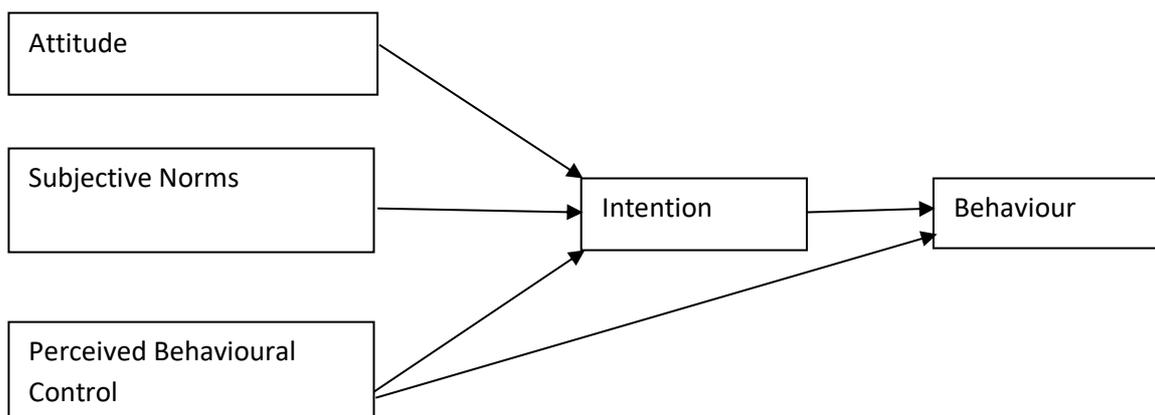


Figure 1: Theory of Planned Behaviour [6]

MATERIALS AND METHODS

This was a qualitative study conducted in three randomly selected informal settlements of Kenya namely Kibera in Nairobi, Manyatta 'A' in Kisumu, and Kaptembwo in Nakuru town. The settlements are densely populated with diverse people from diverse cultures and ethnicity, which would enable in-depth understanding of beliefs, and infant and young child feeding (IYCF) practices from different cultures.

Sample and Sampling procedures

Participants were selected purposively with the assistance of Community Health Workers (CHVs). A maximum variation purposive sampling technique was used to capture a broad range of perspectives on infant feeding by including mothers of children from diverse age groups (6-8 months, 9-12 months, and 13 to 24 months). The Community Health Volunteers assisted in identifying potential participants for study. The CHVs went door to door in their settings explaining the study objectives and inviting eligible participants to take part in the study. The inclusion criteria were mothers who gave informed consent; had children aged between 6 to 24 months, had been residing in the area for one year or more, and were 18 years or older because the participants were of legal age to make decisions independently (including the decisions on what to feed their children). The mothers were invited to participate in a focus group that lasted for 1 to 2 hours. Overall, a total of nine focus groups (three in each settlement) were conducted, with each group consisting of 5 to 10 mothers, to give a total of 64 participants. The total sample size was determined using data saturation (the point of data collection where participants' responses were similar and no new data or theme seemed to emerge after three focus group sessions). Table 1 shows distribution of study participants by focus groups.

Data collection

This study used Focus Group Discussion (FGD) guide to collect data. The guide consisted of open ended questions to elicit information about participants' attitudes (behavioral beliefs, or perceived advantages and disadvantages); perceived behavioral control (control beliefs, or perceived barriers or facilitators); intention; and subjective norms (normative beliefs, or the approval or disapproval of significant others) as shown in Table 2.

The mother's infant feeding practices were assessed using 24-hour recall, open ended questions and a seven day food frequency questionnaire. The 24- hour recall asked the mothers to recall the type of foods and time the foods was given. The guide also consisted of open ended question such as: "What types of food do you usually feed your child?", "What are the reasons why you give those food items to your child?", "What are the popular foods given to children in your area?" Mothers were also asked to recall the type of liquids and foods they introduced to their babies, when the foods were introduced. Also, the mothers received a list indicating the age of the baby, and the foods commonly consumed by children. The mothers ticked the foods they commonly gave the children.



The FGD guide was pilot-tested on a group of six mothers before the main survey. Professional translators translated the guide into Swahili. Another translator did back-to-back translation from Swahili to English to ensure accuracy. The research team comprised of the principal investigator and two research assistants. The research assistants had Bachelor's degree in nutrition, were fluent in Swahili language, and underwent training on research methodology. The principal investigator, who was the moderator explained the topics for discussion, objectives of the study, and obtained informed consent from all participants. Digital voice recorder was used to record the conversations during FGDs and for future use in data analysis.

Ethical considerations

Ethical issues considered included obtaining research approval from the Ethics Review Committee of Masinde Muliro University (approval number MMUST/IERC/16/18) and research permit from National Council for Science and Technology (approval number NACOSTI/P/19/61081/28583). Permission was also sought from the County and representatives of the Ministry of Health and Ministry of Education, and local authorities in each of the study sites. Mothers were informed about their voluntary participation, anonymity and confidentiality of data. Both verbal and written informed consent was obtained from all the participants.

Data analysis

As suggested by Braun & Clark [9], six steps for conducting thematic analysis of qualitative data were followed. The first step was familiarization of data which involved listening to all audio recording, transcribing the data, and translating it into English. In the second step all the authors, who are experienced qualitative researchers developed initial codes independently and then compared the findings to one another. In the third step, the authors searched, identified, discussed the emerging themes and sub-categories themes and resolved discrepancies.

Step four and five involved reviewing, refining and naming themes. In the sixth step, the principal researcher compiled the findings into a narrative report. Then the findings were shared with the participants to obtain their views on whether the results reflected their views and experiences.

RESULTS AND DISCUSSION

Socio-Demographic Characteristics of Mothers

Table 3 presents an overview of the socio-demographic characteristics of the mothers. Sixty-four mothers of children aged from 6-24 months participated in the FGDs. Table 4 displays a summary of the key themes and sub- themes (including the number of times a theme was expressed).

Intention

Analysis of the data showed that some mothers had intended to introduce solid foods at six months. When participants were asked whether they planned to diversify foods in the next month, the number of responses was immense. However, barriers such as mother not feeding well, baby's hunger, perceived insufficient breast milk production



made them to introduce foods earlier. Some participants reported they did not plan but when told in the clinics to introduce foods at six months they did so. A study by Premani *et al.* [10] in Pakistan showed that infant feeding decisions were influenced by antenatal classes, motivation, and support from family members.

“I planned to exclusively breastfeed for the first six months but when it reached three months, it was difficult for me to continue. I was not feeding well and therefore the baby did not have enough breast milk. It forced me to start giving the child other foods and fluids” (Mother from Kibera)

“Same to me I intended to exclusively breastfeed for the first six months but when he reached three months, I couldn’t continue. Yes I had enough breastmilk, but because I had to return to work, I started giving him infant formulas when I was not around.” (Mother from Kaptembwo)

However, some of the mothers in all FGDs reported they did not plan on how they would feed their babies. Some of the participants said that they did not have a plan to introduce solid foods at six months, but when told in the hospital, they planned to do that.

“I didn’t have a strategy for how I was going to feed her. After a month, she was so hungry that she would swallow me. Because of her hunger, I was compelled to start giving him other meals.” (Mother from Manyatta ‘A’)

“I assumed I would look after her in the same manner that I had looked after my first born child. However, after being trained in clinics, I made the decision to exclusively breastfeed the second child for the first six months. That was when she began to consume different foods. But I started feeding my first child when she was just two months old.” (Mother from Kibera)

When asked about their intention to give a variety of foods if they get another baby, mothers in all focus groups stated they would do that. Most of them agreed because they had now learnt since they perceived the FGD as a learning opportunity. However, some participants stated they would not do that. For example, one mother said,

“I would only do so if God blessed me with enough money to eat healthy food and hence have enough breast milk. Then I would exclusively breastfeed for six months.” (Mother from Kaptembwo).

Attitude: Perceived Advantages and Disadvantages

As shown in Table 4, the participants mostly cited protection against diseases as the major advantage of dietary diversity across all focus groups. Health benefits such as babies becoming strong and healthy were also frequently mentioned by participants as major advantages of dietary diversity. This is consistent with a study by Spinks and Hamilton [11]. Other benefits mentioned included for the baby to have good body, baby not to feel hungry, and baby not have kwashiorkor. Baby to grow well was also mentioned as an advantage of dietary diversity. However, there is need to increase awareness on other benefits such as boosting immunity and preventing malnutrition. In

all focus groups, mothers did not identify any disadvantage of providing a variety of foods to the baby.

Perceived Behavioral Control: Facilitators and Barriers

The most frequently cited factor facilitating dietary diversity was adequate money. Participants also reported planning for food and, availability of food at home would make it easier for them to provide a variety of foods.

“ You should always prepare ahead of time. If you had planned to feed the baby food at such a time, then you should make sure you offer the infant food at that time ”

(Mother from Kibera)

Poverty. The major barrier to giving variety of foods frequently cited in all the focus groups was poverty or inadequate money. Although not all of the participants admitted to being poor, it was apparent that their living conditions were poor and that they had limited resources and income. Mothers linked their inability to produce adequate breastmilk to inadequate food. Previous studies have also demonstrated lack of money as a barrier to purchasing some foodstuffs especially meat and eggs [12].

“Lack of money would hinder a mother from giving a variety of meals to her baby because most mothers are not independent. It becomes more difficult, especially if your husband was a casual laborer or you were a single mom. The money earned may just be enough for ugali and kales, and if you offered different foods for lunch, then you may not have enough for supper. As a result, the mother is compelled to have that one meal in order to obtain both lunch and dinner.” (Mother from Kaptembwo)

Stress and worry. Participants also attributed their inability to produce sufficient breast milk to stress and worry leading to early introduction of complementary foods. Negative emotions during infant feeding may influence the function of the maternal cerebral cortex, hypothalamus, and pituitary, lowering prolactin and oxytocin production and, as a result, lowering breast milk supply [12].

“ It would be necessary for a woman to have a balanced diet or else she would not have enough breastmilk. Stress would cause breast milk to disappear. There were instances when I was so worried, I had so many things in my mind. Even if I breastfed, the baby would still cry because there was no milk. That was something I witnessed.” (Mother from Manyatta `A`)

Lack of knowledge about complementary feeding. Some mothers cited lack of knowledge as a barrier to dietary diversity. Lack of knowledge has been reported as barrier to appropriate complimentary feeding and foods in other studies [12]. For instance, one participant said:

“ I could also say that may be some women did not know the importance of changing foods. Therefore, when they get such teachings they would start diversifying foods. There are some who have money but they do not know the importance of changing foods. If they could get that knowledge they would change. ” (Mother from Kibera)

Likes and dislikes of food. In both Kibera and Kaptembwo, mothers reported child's likes and dislikes of food as barriers. The mothers described some children as choosy eaters, selecting only a few foods to eat. According to Nicklaus [13], acceptance of

food by child in early childhood is a key predictor of the variety of food selected in adulthood. Therefore, to ensure long-term dietary diversity, young children should be given a variety of healthy food options.

“At times you would buy yoghurt very well; maybe she had drunk it today, if you buy another one tomorrow she refuses. So he chooses, so it gets spoilt so you can’t give him another one next time” (Mother from Kibera)

“Like there was a child who liked rice, if you would cook food she would say mama this one that you had cooked I don’t want, she chose. For example, if a child said I want milk, you cannot cook porridge and not put milk inside, even the taste he would know this porridge doesn’t have milk” (Mother from Kaptembwo)

Unavailability of foods. Unavailability of different foods at home was mentioned as a barrier to dietary diversity. The high cost of food was revealed to be a barrier to access, especially for nutritious foods such as beef, fish, chicken, and fruits. Since most of the participants in this study could not afford these foods, they purchased and consumed cheaper substitutes. This may indicate inadequate awareness of the resources available in the community.

“Sometimes food was not available in the house because of lack of money” (Mother from Kaptembwo)

“ Sometimes you would really want your baby to eat meat, but due to the high price, you would be compelled to offer him or her small fish (omena), which was less expensive.

If you had any little fish in the house, you were forced you to give what was available at home and affordable”. (Mother from Manyatta `A`)

Time constraints. In Kaptembwo and Kibera, mothers felt like they were burdened with responsibilities at work and home giving them less time to take care of the children. Outside work, household chores and child care were reported to be barriers to continued breastfeeding beyond six months. Mothers perceived their workload as an impediment, restricting their time for caregiving and, in particular, complementary feeding.

“And, once again, it was the current lifestyle that caused all of us to look for work. At times, I wouldn't be around, remaining while breastfeeding, I'd take her to daycare, or I'd leave her with someone while I sought for employment outside the home..” (Mother from Manyatta)

Subjective norms: Approval and Disapproval

Mothers identified people who would approve or disapprove them giving a variety of foods to baby. When asked who would disapprove for giving a variety of foods to children, majority of the mothers said no one.



Health professionals. Mothers cited health professionals at the clinics, particularly, doctors, as those who would mostly approve introduction of complementary foods at six months of age and dietary diversity. In Kibera, some mothers reported doctors would disapprove especially when the baby is allergic to certain foods. These findings indicate that health professionals have major influence on infant feeding practices. This is consistent with previous studies indicating influences of infant feeding practices are from doctors, health professionals, and health benefits for the baby [14].

“The doctor could mention something like allergy, you could be giving eggs and haven't realized that the eggs are the ones causing problems, and if you took the baby to the hospital, he would tell you that the eggs are the ones causing problems.”
(Mother from Kibera)

“Whoever agreed was the doctor because when you take the baby to clinic her weight would show the progress of the baby. Neighbour would not agree with that because she would see like you were doing something opposite, because they knew that when a baby was born they were supposed to drink porridge, and you were following total advice and information from the doctor that was what you follow” (Mother from Manyatta 'A')

Mothers mostly cited clinics as their main source of infant feeding information. The findings are contrary to a study by Trafford *et al.*, [14] in South Africa that found that mothers sought advice and support from a variety of sources such as online and relied on social media, government and health websites or commercial providers.

In Kibera and Kaptembwo, some mothers mentioned their parents would influence their food choice.

“We get knowledge from clinics. Even parents if you visited them they would tell you if a child takes tea if it reaches a particular time they should be given porridge” (Mother from Kibera)

However, in Kaptembwo some mothers stated that nurses did not tell them about infant feeding but they read in books.

“I had never heard. I went to hospital I was not told. I got information from the books that were usually given at the clinic” (Mother from Kaptembwo)

Another mother said *“I was never told about the foods that I was supposed to give a child in clinic and I heard from my sisters and parents”*

Father of baby. Mothers reported receiving pressure from their husbands resulting in early introduction of foods. Some mothers reported lack of support of fathers in the pre-natal and post-natal care of mother and baby. Some studies have shown that fathers play major role in mental and emotional support of mother [16]. However, more research needs to be done to ascertain the influence of fathers and grandmothers on child feeding in informal settlements. Arimond *et al.* [16] indicated that encouraging the provision of social support to mothers by significant others such as grandmothers and fathers enhanced infant feeding such as frequency of meals and dietary diversity.

One mother suggested that fathers should be encouraged to attend clinics to listen to the advice.

“You know, they said it was great to go to the hospital with your spouse so he could listen to the instructions, but some men refuse to accompany their wives. Once you were back home, they would advise you to give the child the packaged milk. They would pressure you to do so because they did not go to the hospital and do not know it was wrong” (Mother from Kibera)

Friends. In almost all focus groups, participants mostly cited friends would not approve introduction of solid foods at six months. This finding indicates a need to involve both mothers and significant others who are most likely to influence infant feeding. In Kibera, a few mother stated that pressure against exclusive breastfeeding from friends did not cause them to start giving foods early. Friends were hardly mentioned as approvers for providing variety of foods.

“Friends said that the baby would cry until you would be overwhelmed {laugh} if you do not introduce foods early to your child. They would tell me to start giving food because he would cry a lot. But I did not listen to them” (Mother from Kibera)

In Manyatta ‘A’ some mothers mentioned that they hear people telling them to introduce foods early but you ignore.

“Some friends talked but I did not follow their advice. Someone told me to start giving porridge” (Mother from Manyatta ‘A’)

Neighbours. A few participants reported so many instances where neighbours would try to stop them from exclusive breast feeding. Some of the responses given by participants were:

“Neighbours cannot advise you to breastfeed for the first six months of your child's life. It was difficult; some would even suggest you were sick with a virus, therefore you were advised to breastfeed exclusively so as not to infect the baby.” (Mother from Kibera)

Mothers stated that if you EBF your child, neighbours would say that you are HIV positive. For example, one mother reported, *“You know, ancient people used to claim that mothers who exclusively breastfed for six months were infected with HIV, but they didn't know what it meant.”* (Mother from Kibera)

Mother of the baby. Mothers were cited as those who would approve or disapprove giving the baby certain foods. Moreover, mothers reported that they are the ones who decide the kind of food to cook and how to prepare it. This showed that mothers had some decision-making power over children’s diets. One mother said *“the baby was yours; the mother was the one who decides what to feed her. You know most mothers, even if they had a child, they would still do a lot of work in the house and outside, with that child, but men cannot”* (Mother from Kibera).



“Like me I would not accept all foods like soda I cannot make my child get used to soda so much because if it was an orange soda I would rather give oranges. Fruits can be beneficial” (Mother from Kaptembwo)

Complementary feeding Practices

Findings from this study showed that mothers were still breastfeeding, but introduced solid foods early before six months consistent to other studies [3]. In almost all FGDs, mothers said they introduced complementary foods before the age of six months.

“Yes, I introduced porridge when he was six months.....I gave him gripe water when he was four months there” (Mother from Kibera)

However, the majority of mothers reported introducing foods such as porridge, plain water, weetabix, fruits, cow’s milk, ugali, potatoes, bananas, and salt and sugar solution before four months.

“Because even me, I do not want to lie I started giving foods when she was two months. I started with porridge when she was two months, pumpkin when she was four months and when she reached five months I gave her ugali and soup” (Mothers from Manyatta ‘A’)

There was low diversity of complementary foods indicating low nutrient intake [14]. The most frequently provided starchy foods were *chappatis*, *mandazis*, potatoes, rice, *weetabix*, porridge, and ugali. Of all the foods, porridge seemed to be the most common complementary food.

“Yesterday when he woke up, he drunk porridge, at 11 a.m he drunk porridge, at 1 p.m I prepared potatoes and he ate those potatoes at 4 pm, he drunk porridge and at 8 p.m he also ate those potatoes” (Mother from Manyatta)”.

Generally, mothers reported being giving foods such as cow’s milk, porridge, potatoes, spinach, pumpkin, ugali, bananas, rice, avocados, mangoes, fish, kales (*Sukuma*), *omena*.

Some mothers reported giving fluids such as tea and soda to their infants.

“In the morning he drunk I prepared porridge and I mix with a little milk and he slept. Since morning I gave milk and weetabix it reached at 10 a.m, I prepared porridge. It reached at 1pm there I boiled potatoes, it reached in the evening there at 5pm there i gave him tea. he drunk tea only. Reaching at night I cooked ugali and meat and he ate. I saw that if he ate those foods he became strong” (Mother from Kaptembwo)

Consumption of animal foods was low which may result inadequate intake of iron and zinc [16]. Mothers to a lesser extent mentioned protein sources such as small fish (*omena*), eggs, beans, green grams (*pojo*). Children did not frequently consume legumes and nuts, meat, soya beans, and eggs. Consumption of big fish was rare.



“Porridge in the morning, at 10 a.m. milk, at 1 he took boiled bananas and potatoes and at night he ate ugali and omena soup” (Mother from Kibera)”

“Yesterday in the morning I gave porridge, it reached at 10 I gave tea, at 1 I gave ugali and kales, at 4 p.m. she drunk tea. At night I gave ugali and eggs, took water, and slept” (Mother from Kibera).

CONCLUSION

In conclusion, this study showed that mothers had positive attitude towards dietary diversity. The findings indicate that money, time constraints, lack of knowledge on complementary feeding, unavailability of food at home, as well as social referents such as fathers, neighbours, friends, and health professionals influenced dietary diversity. The findings suggest more focus on promoting positive attitudes toward introducing solid foods at 6 months, providing accurate infant feeding information, and considering influences of significant others such as fathers, grandmothers, sisters, neighbours and community in infant feeding programs.

Strengths and Limitations

The strength of this study is exploring infant feeding practices using theory of planned behaviour in three informal settlements in Kenya using the qualitative method. These results based on purposive, small sample of mothers, are not representative of the whole population of mothers and, therefore, cannot be generalized. This study did not include fathers, grandmothers, or health professionals who are more likely to influence infant feeding practices. Future studies should consider exploring influences on infant feeding beliefs and practices in rural areas.

Conflict of Interest

The authors declare that they have no conflict of interest.



Table 1: Distribution of study participants by Focus groups

Informal settlement	Number of focus groups	Number of participants
Manyatta `A`	3	25
Kaptembwo	3	15
Kibera	3	24
Total	9	64

Table 2: Sample of focus group discussion questions

TPB construct	Elicited beliefs	Sample of questions
Behavioral beliefs	Perceived advantages	What are some good things or advantages of providing variety of foods to your child?
	Perceived disadvantages	What are some disadvantages/bad things that could result from providing a variety of foods to your child?
Normative beliefs	Approval from significant others	Who are the groups/people that would approve of you giving your child variety of foods?
	Disapproval from significant others	Who are the groups/people that would disapprove of you giving your child variety of foods?
Perceived control beliefs	Facilitators	What helps or make it easier for you to provide a variety of foods to your child?
	Barriers	What prevents or make it difficult for you to provide a variety of foods to your child?

Table 3: Socio-demographic characteristics of the mothers

Variables	Total		Kibera		Manyatta `A`		Kaptembwo	
	N	%	n	%	n	%	n	%
Mother's age								
18	1	1.5	1	4.2	0	0	0	0
19-25	32	50	13	54.2	10	40	9	60
26-32	17	26.6	5	20.8	9	36	3	20
33-38	9	14.1	2	8.3	4	16	3	20
≥ 39	5	7.8	3	12.3	2	8	0	0
Marital status								
Married	56	87.5	20	83.3	23	92	13	86.7
Single	8	12.5	4	16.7	2	8	2	13.3
Highest education level								
Incomplete primary	7	10.94	2	8.3	3	12	1	6.7
Complete primary	21	32.81	7	29.2	8	32	6	40
Incomplete secondary	13	20.31	5	20.8	6	24	2	13.3
Complete secondary	15	23.44	4	16.7	6	24	3	20
College	8	12.5	6	25	2	8	3	20



Table 4: Summary of key themes and sub-themes

Key themes	Sub-themes
Perceived control beliefs (Perceived behavioural control)	Poverty/inadequate money Stress and worry Lack of knowledge
-Barriers	Child Likes and dislikes of food Unavailability of foods at home Time constraints
Perceived control beliefs	Adequate money
-Facilitators	Planning Availability of foods at home
Normative beliefs (subjective norms)	Health professionals
-People/groups approving	Father of baby Friends Neighbours Mother of the baby
Normative beliefs	No one
(people/groups disapproving)	Doctors
Behavioral beliefs (Attitudes)	Mother of the baby Protects against disease Baby become strong
-Advantages	Baby become healthy Baby's body becomes good Baby does not feel hungry Baby grow well Baby does not have Kwashiorkor
Behavioral beliefs	No disadvantages
-Disadvantages)	
Intention	I intended to introduce complementary foods at six months I did not plan on how I would feed my baby before he/she was born I plan to feed my baby a variety of foods in the next month

REFERENCES

1. **WHO.** For assessing infant and young child feeding practices: part II measurement 2010. Available from: <http://www.who.int/nutrition/publications/infantfeeding/9789241599290/en> Accessed 6th June 2019.
2. **Ahoya B, Kavle JA, Straubinger S and CM Gathi** Accelerating progress for complementary feeding in Kenya: Key government actions and the way forward. *Matern Child Nutr.* 2019; **15**: S1.
3. **Kenya National Bureau of Statistics.** Kenya Demographic Health Survey Report, World Health Organization Global Data Bank on Infant and Young Child Feeding, Calverton, Maryland: CBS, MOH & ORC Macro. 2014.
4. **Kimani-Murage EW, Schofield L, Wekesah F, Mohamed S, Mberu B and R Ettarh** Vulnerability to food insecurity in urban settlements: experiences from Nairobi, Kenya. *J. Urban Health: Bulletin of the New York Academy of Medicine.* 2014; 1524-014-9894-3.
5. **Stavros K** Theory of Planned Behaviour the intention-behaviour relationship and the perceived behavioural control relationship with the intention and behaviour. *Int. J. strategic innovative .* 2015; **03**. <https://doi.org/10.15556/IJSIM.02.03.004>
6. **Ajzen I** The theory of planned behavior. *Organizational Behavior and Human Decision Processes.* 1991; **50(2)**:179-211.
7. **Thomas J, Yu E, Tirmizi N, Owais A, Das S and S Rahman** Maternal knowledge, attitudes and self-efficacy in relation to intention to exclusively breastfeed among pregnant women in rural Bangladesh. *Matern Child Health J.* 2015; **19(1)**: 49-57.
8. **Behera D and AK Kumar** Predictors of exclusive breastfeeding intention among rural pregnant women in India: a study using theory of planned behavior. *Rural Remote Health* (2015); **15(3)**:1-10.
9. **Braun V and V Clarke** Using thematic analysis in psychology. *Qualitative Research in Psychology*, 2006; **3**: 77-101.
10. **Premani ZS, Kurji Z and Y Mithani** To Explore the Experiences of Women on Reasons in Initiating and Maintaining Breastfeeding in Urban Area of Karachi, Pakistan: An Exploratory Study, 2011, *Int Sch Res.* 2011; Article ID 514323.
11. **Spinks T and K Hamilton** Investigating key beliefs guiding mother's dietary decisions for their 2-3 year old. *Appetite.* 2015; **89**: 167-74.



12. **Nankumbi J and JK Muliira** Barriers to Infant and Child-feeding Practices: A Qualitative Study of Primary Caregivers in Rural Uganda. *J Health Popul Nutr.* 2015; **33 (1)**: 106-116.
13. **Nicklaus S** Development of food variety in children. *Appetite.* 2009; **52**: 253-255.
14. **Trafford Z, Jewett S and L Banford** Reported infant feeding practices and contextual influences on breastfeeding: qualitative interviews with women registered to MonConnect in three South African Provinces. *Int. Breastfeed. J.* (2020), **15** (81).
15. **Bueno-Gutierrez D and C Chantry** Life does not make it easy to breast-feed”: using the socio-ecological framework to determine social breast-feeding obstacles in a low-income population in Tijuana, Mexico. *Public Health Nutr.* 2015; **18(18)**:3371–85.
16. **Arimond M, Wiesmann D, Becquey E, Carriquiry A, Daniels MC, Deitchler M, Joseph ML, Kennedy G, Martin-Prevel Y and L Torheim** Simple food group diversity indicators predict micronutrient adequacy of women’s diets in five diverse, resource-poor settings. *J Nutr*, 2010; **140**: 2059S–2069S.

