International Journal of Public Health Research
2017; 5(4): 42-48
http://www.openscienceonline.com/journal/ijphr
ISSN: 2381-4829 (Print); ISSN: 2381-4837 (Online)

Open Science

Factors Affecting Exclusive Breastfeeding Among Post-Natal Mothers in Kinondoni Municipality, Dar es Salaam

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To cite this article

Evodia Kokushubira, Achilles Kiwanuka, Stephen Maluka. Factors Affecting Exclusive Breastfeeding Among Post-Natal Mothers in Kinondoni Municipality, Dar es Salaam. *International Journal of Public Health Research*. Vol. 5, No. 4, 2017, pp. 42-48.

Received: April 14, 2017; **Accepted**: June 5, 2017; **Published**: July 24, 2017

Abstract

Statistical estimates from UNICEF show that about 11.6% of the deaths of 6.9 million children who are under-five in developing countries could be prevented through good breastfeeding practices, especially exclusive breastfeeding (EBF). Furthermore, the World Health Organization (WHO) recommends mothers to breastfeed their children one hour after delivery and EBF to continue up to six months for a healthy growth and development of their babies. Despite its advantages breastfeeding is not practised very much in many countries; Tanzania not being an exception. This study was intended to assess mothers' perception towards EBF, complementary food given to children and factors that affect breastfeeding. The study was descriptive and cross sectional, employing quantitative measures. Data was collected from 100 post-natal mothers at Sinza district hospital and analysed using SPSS version 19. Results show that most mothers (92%) were knowledgeable on the advantages of breastfeeding. Soft foods were mentioned to be given to babies during the initiation of complementary feeding. The study revealed that the factors that affect exclusive breastfeeding include: anxiety of breastfeeding in public; being busy with household chores when the baby is crying; and sickness of the mother. Further research is needed on the nutritional contents of the food given to babies, to determine whether it fulfils their requirements. Moreover, there is room for improvement of the institutional policies and cultural practices that impede breastfeeding through legislation.

Keywords

Exclusive Breastfeeding, Post-Natal Mothers

1. Introduction

Exclusive Breastfeeding (EBF) refers to the act of giving a newly born baby breast milk only from the date of its birth up to six months, without giving it any other food; be it liquid or solid, except when it falls sick and it has to be given vitamins and minerals or medicines for its survival [1]. About 11.6% of the deaths of children who are under the age of five years in developing countries could be prevented by good breastfeeding practices, especially EBF [2]. Once children are breastfed optimally for the duration of two years, 1.4 million deaths for under-five children can be prevented in the developing world annually [3].

In the 54th World Health Assembly which was held in Geneva, in May 2001, member states were urged to encourage mothers to maintain EBF for six months so as to promote healthy growth and development of children [4-5]. Globally, the extent of ideal infant feeding practices as recommended by the World Health Organisation (WHO) is very low at 14.4% [5]. Further, only 38% of infants get the opportunity of being exclusively breastfed during the first four months of their lives, while complimentary feeding is not done in time, in an unsafe and inappropriate way [6].

Breastfeeding initiated within one hour after birth is one of the most effective ways of protecting the health of both the baby and her mother. According to the United Nations Children's Fund (UNICEF), breast milk is the baby's first immunization that protects it against diarrhoea and other health problems [2].

It is evident that breastfeeding has short-term and long-term health benefits for both infants and mothers. In a study conducted by [7] involving two large cohorts of 150,000 female nurses in Western Kenya, breastfeeding was responsible for reduction of 4% of the risk of developing type-2 diabetes in the first cohort and 12% risk in the second cohort. Exclusive breastfeeding is believed to promote growth of newly born babies as well as infants since it contributes to 100% of the daily requirements of the nutrition for children up to the age of 6 months; 50% for 6-12 months and 35% of requirements of the nutrition for children aged from 12-24 months [4].

The World Health Organisation and UNICEF advise mothers to start breastfeeding their babies within one hour after their birth and that infants should be fed with semi-solid and soft foods starting from 6 months noting how they respond nutritionally according to their age [8-9]. Breastfeeding provides natural immunity, prevents babies from infectious diseases and improves their immunity systems [10-13]. Moreover, breastfeeding also contributes to reducing of neonatal deaths [14-15]. To the mother, it delays a woman from becoming fertile again; hence a good mechanism of natural family planning [16].

Although national guidelines for infant and young children feeding practices in Tanzania were developed since 2003, EBF is not widely practised with the prevalence of EBF being 50% [17]. Similarly, a study conducted by [18] in Kilimanjaro, Tanzania involving mothers with infants aged 6-12 months revealed that EBF was relatively low (20.7%) without significant differences in urban and rural areas. However, in a study conducted by [19] in the United Arab Emirates, over 70% of the mothers said that they had breastfed their babies exclusively for three months. This signifies the difference in EBF practice between developing and developed countries. Due to the statistics observed, this study was undertaken. The main objective of the study was to determine factors that influence EBF among post-natal mothers in the Kinondoni Municipality, Dar es Salaam. Specifically, the research was set to assess knowledge and perception of mothers towards EBF practices, explore complementary food given to babies during the weaning period and factors (institutional, social and cultural) that influence breastfeeding.

2. Methodology

2.1. Study Design

This research employed a descriptive cross sectional design utilizing both quantitative and qualitative methods. The study was cross-sectional in a sense that data was collected at a particular point in time and not over a period of time.

2.2. Study Area

The study was conducted at the Reproductive and Child Health (RCH) clinic at Sinza district hospital, in Kinondoni municipality, Dar es Salaam. The hospital was chosen because of the large number of mothers who attend both antenatal and post-natal care at the health facility. Among the five districts of Dar es Salaam, Kinondoni is the one that is highly populated and thus it was purposively selected.

2.3. Sampling Technique Sample Size

Systematic random sampling method was used whereby every third mother who attended RCH clinic at Sinza hospital during the data collection period was interviewed until when the required sample size of 100 mothers who had breastfed their babies for six months was reached. The estimated prevalence of EBF was 50%, confidence interval for the sample size was set at 95% whereas the standard error was set at 10% and then the sample size was statistically calculated as described by [20]. Consequently, the sample size for this study was 100 breastfeeding mothers.

2.4. Data Collection Methods

Data were collected using questionnaires which were administered to the respondents. The questionnaires included open and closed-ended questions which facilitated a lot of information to be collected within a short period. The questionnaires were pre-tested to check for validity of the questions. Responses of EBF were based on recall method of the mothers.

Before administering the questionnaires, verbal informed consent was obtained from the respondents. Moreover, code numbers were used instead of names to ensure confidentiality. After each respondent had completed filling the questionnaire, the researcher cross-checked the forms to ensure that all questions had been attempted, before the respondent left.

2.5. Data Analysis

Data from the field were coded, and then analysed using Statistical Package for Social Sciences (SPSS) version 21 software. Descriptive statistics were used for summarizing the data and providing answers to the research objectives. Each of the coded responses were first analysed independently and then comparison made with other coded responses. Data analysis included the evaluation of issues that affect exclusive breastfeeding.

2.6. Ethical Considerations

Ethical clearance was obtained from the University of Dar es Salaam. Permission to undertake the study was granted by Kinondoni Municipal Medical Officer of Health on behalf of the Municipal Executive Director. Verbal informed consent was obtained from all participants before the study and they were informed of their freedom to withdraw from participating in the study, at any time they wanted without any repercussions. Respondents were assured of the confidentiality of information that they were going to provide

for the study as no identifiable data was sought.

3. Results

3.1. Description of the Respondents

The mean age of the respondents was 27 years, with the youngest being 16 years and the oldest being 45 years. The mean age of the children was 10 months with the youngest being 6 months and the oldest being 24 months. 52% of the children were female. Other socio-demographic characteristics including marital status, education level and occupation are as shown in table 1.

Table 1. *Socio-demographic characteristics of respondents.*

Variable	Percentage
Marital status	
Single	20.0
Married	77.0
Separated	2.0
Widow	1.0
Education level	
No formal education	3.0
Primary education	48.0
Secondary education	39.0
Tertiary	10.0
Occupation	
Employed	13.0
Businesswomen	39.0
Unemployed	48.0

3.2. Knowledge and Perception of Mothers Towards Breastfeeding

About 75% of the respondents agreed that they got information about breastfeeding their babies while they were pregnant. The sources from which they got the breastfeeding information include health facilities (38.3%), experience (59.9%), media (1.2%) and friends (0.6%).

All respondents had attended antenatal clinics and were breastfeeding their babies. 99% of the babies had been born in health facilities while 92% were aware of the importance of breast milk for their babies and themselves. The advantages of breast milk that they mentioned are summarised in table 2.

Table 2. *Advantages of Breast Milk.*

Advantage	Responses	Percentage
Available all the time	1	0.6
Builds love and relationship between baby and mother	4	2.4
Builds the body	15	8.9
Family planning	2	1.2
Healthy growth and development	70	41.4
Prevents diseases	17	10.1
Provides nutrients	4	2.4
Provides energy	12	7.1
Provides immunity	27	16.0
Provides vitamins	17	10.1
Total	169	100.0

Early initiation of breastfeeding is critical to the survival of babies. Thus mothers were asked how soon after birth their babies were breastfed. The responses are as summarised in figure 1.

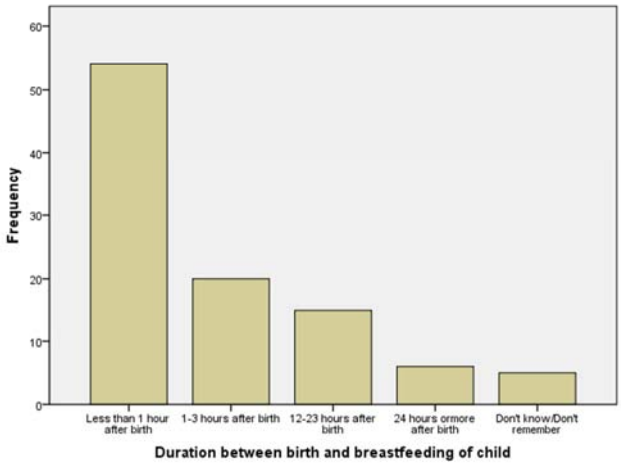


Figure 1. *Time between Birth and Breastfeeding.*

Only 12% of the respondents stated that their babies were fed on something else other than breast milk soon after birth. 7% gave their babies glucose, 4% gave their babies water while only 1% gave their babies baby formula. 99% of the mothers indicated that they breastfed their babies on colostrum. Only 13% of the mothers said that they breastfed their babies on demand. The remaining 87% breastfed their babies at different frequencies in 24 hours. Further, 81% of the respondents said that they were still breastfeeding their babies despite all of them (babies) being 24 months or younger. The breast milk substitutes that the mothers gave their children were cow's milk (45%), commercial infant formula (20%) and goat's milk (1%). The remaining 35% mentioned that they had not given their babies any kind of milk substitute.

3.3. Complimentary Feeding and Factors That Influence Breastfeeding

When children start complementary feeding, they are introduced to a variety of soft foods. Table 3 shows a summary of the foods that are usually given to babies, as mentioned by the respondents.

Table 3. *Complimentary Foods given to Babies.*

Food	Responses	Percentage
Mashed potatoes	17	7.6
Mashed bananas	46	20.6
Rice	7	3.1
Plain porridge	60	26.9
Nutritious porridge	38	17.0
Stiff porridge	23	10.3
Beans	2	0.9
Eggs	1	0.4
Juice	7	3.1
Fruits	4	1.8
Milk	12	5.4
Milk powder	1	0.4
Vegetables	3	1.3
Fish	2	0.9
Total	223	100.0

About 51% of the mothers said that they had ever felt uncomfortable to breastfeed in a public place. The places in which they felt most uncomfortable to breastfeed in public are private residences of people (25.5%), crowded areas (7.8%), places of worship (5.9%) and public transportation systems (5.9%).

Over 59% of the mothers indicated that it had been ever suggested to them that they stop breastfeeding. People who had suggested to them to do so are as shown in figure 2. The major reasons that they had provided for them to stop breastfeeding include baby is old enough and it is the right time (40%) and when the mother was ill or taking medication (5%).

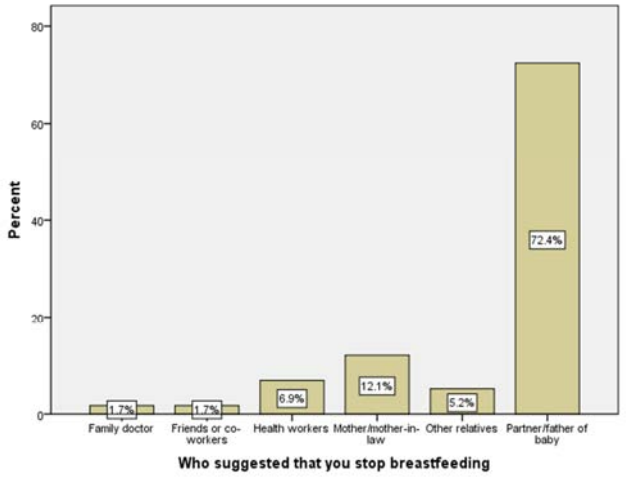


Figure 2. *Individuals who suggested that Mothers Should Stop Breastfeeding.*

3.4. Complimentary Feeding and Factors That Influence Breastfeeding Institutional and Social-Cultural Factors that Influence EBF

Mothers mentioned various issues that affected EBF. These were categorised as those that occur in the home setting, society, cultural and work place related as shown in table 4.

Table 4. *Factors that Affect Breastfeeding.*

Factor	Responses	Percentage
Home		
Age of child	1	2.1
Busy with chores without a helper	23	48.9
Jealousy of father over the baby	1	2.1
If baby is crying	1	2.1
If baby is sleeping	2	4.3
Inflammation or cracking of nipple	2	4.3
Lack of education	1	2.1
Lack of milk in breast	2	4.3
Poor nutrition of mother	1	2.1
Sick mother	6	12.8
Studies	2	4.3
Taboos	1	2.1
Traffic jam while going back home	1	2.1
Travelling away from home	3	6.4
Total	47	100.0
Society related		
Advice of relatives	2	3.8
Breast will drop or become flabby	1	1.9
Being busy with other activities	4	7.7
Failure to cuddle baby well	1	1.9
Congestion with no ventilation	2	3.8
Cultural background and taboos	1	1.9
Ignorance and negligence	1	1.9
Transport to go and breastfeed baby	1	1.9
Un-conducive environment	3	5.8
Visitors at home	1	1.9
Anxiety of many people	28	53.8
Looking for materials for studying	1	1.9
Mother is sick	2	3.8
Food can choke baby if people look at him/her	1	1.9
Breastfeeding while pregnant	1	1.9
Watery milk	1	1.9
Untidiness of mother (hands, body, breast)	1	1.9
Total	52	100.0
Cultural		
Baby should belch after breastfeeding	1	0.8
Breastfeeding makes breasts flaccid	1	0.8
Clean breast and nipples before breastfeeding	44	37.0
If child is sick	2	1.7
If mother is sick	1	0.8
Sores on breasts	1	0.8
Squeeze breast because first milk will affect the baby	1	0.8
Stop breastfeeding when pregnant	3	2.5
Bathe/clean the body before breastfeeding	34	28.6
Wash hands before breastfeeding	31	26.1
Total	119	100.0
Workplace Related		
Long time without breastfeeding	10	9.1
If baby is crying	58	52.7
If baby feels hungry	4	3.6
If breast is full of milk	23	20.9
Painful nipple or breast	2	1.8
If baby is unhappy or miserable	2	1.8
If baby is sick	1	0.9
Love between mother and baby	3	2.7
Being granted maternity leave	1	0.9
Cooperation from co-workers	1	0.9
Permission to breastfeed from employer	3	2.7
Fear to be expelled from work	1	0.9
Availability of transport to go home to breastfeed	1	0.9
Total	110	100.0

4. Discussion

Over 92% of the mothers who participated in the study had breastfed their babies on colostrum right from birth. This is contrary to a study conducted by [21] in Ethiopia where 35% of the lactating mothers squeezed the colostrum and poured it away. This was due to the Ethiopian cultural belief that claims that colostrum can cause abdominal pains in their babies as well as milk insufficiencies in the mother. Education and sensitisation programs about breastfeeding should fight such misconceptions that are delivered to the community. Expectant mothers should be informed of the advantages of colostrum right from antenatal clinics. Health facilitates can be a major dissemination point for such information. However, results from the study revealed that

only 38.3% of the mothers had acquired such information from health facilities. They (respondents) mentioned that much of the knowledge about breastfeeding that they knew had been acquired through experience (59.9%). This is because in typical African cultures, knowledge is transmitted down the cultural lines. That is, mothers teach their children (women) how to care for their babies and themselves when they are pregnant. Media which is considered by many organisations to be an important outlet point of information contributed only 1.2% for the source of breastfeeding information.

About 92% of the mothers indicated that they were aware of the importance of breast milk to their babies and themselves. Further, all the mothers had breastfed their babies during their childhood. This can be attributed to the fact that 99% of the mothers had given birth in health facilities. This is way above the national average where only 50.1% of deliveries occur in hospitals [17]. For all deliveries without complications, health workers (nurses and doctors) endeavour to initiate breastfeeding within 30 minutes after birth. This is supported with the fact that at least 54% of the mothers had initiated breastfeeding within one hour after delivery. However, the statistics are still low when compared to a study conducted by [13] in which 80.6% of breastfeeding mothers had put their babies on their breasts within one hour after delivery.

In line with the government efforts to sensitize mothers to breastfeed their babies for 2 years, 90% of the mothers said that they would do so. Babies do not have a specific time table for feeding. They should be breastfed on demand according to common medical practice. On the contrary, when the mothers were asked whether they breastfeed their babies on demand, only 13% concurred with that. They mentioned different frequencies that range from 2 to 24 with the most common frequencies ranging from 8 to 10. According to a study conducted by [22], the incidence of breastfeeding was more likely to be high once mothers followed the on-demand principle instead of *feeding on time-table.*

In communities of the respondents, that is Tanzania, babies are normally first given plain porridge which is sieved most of the time. This is done because the gastrointestinal tract of the babies is not yet mature to digest hard food. This is interchanged with mashed bananas that are usually mixed with meat soup. This mixture is called *mtori.* It is nutritious as it contains carbohydrates, proteins and fats. Mothers also provide nutritious fortified porridge for their children which is either commercially available from shops or prepared by the mothers themselves. The ingredients that are mostly used are maize, rice, ground nuts, and sorghum. In addition, stiff porridge is among the favourite foods that are given to babies.

Over 51% of the respondents noted that they had ever felt uncomfortable to breastfeed in public places. Whereas in this study, 2% of the mothers noted that they were uncomfortable to breastfeed in malls or store offices, [23] reported that 48% of shopping centre managers would not mind if a mother breastfed anywhere on their premises. It is important to note from these findings, the high number of mothers (47.1%) who were uncomfortable to breastfeed anywhere in case there was company of somebody else. This is a finding that needs intervention as it can affects the nutritional status of children.

In most African cultures, suggestions put forward by husband and in-laws are respected. In this regard 59% of the mothers had been told to stop breastfeeding at one point in time. The husbands (72.4%) toppled the list of persons who had ever suggested cessation of breastfeeding followed by in-laws (12.1%). This highlights the need to focus health education programmes not only on women but also their partners during pregnancy. The reason that most mothers gave for ceasing breastfeeding is that the baby was old enough. Not all mothers expressed willingness to breastfeed their babies up to 24 months of age. Some mothers claimed that they stopped breastfeeding because the breasts did not produce milk. The insufficiency of breast-milk was also reported by mothers in the United Arab Emirates [13]. However, some nutritionists argue that lack of milk in the breasts is caused mostly by maternal psychological factors rather than physiological ones [24-25].

Other reasons that affect EBF include maternal illness, need for medicine, infant illness and breastfeeding problems [26]; young maternal age, higher maternal education level [27]. It is also important to note that employment is a serious factor that affects EBF practices, thus adversely affecting development of children and consequently sustained repercussions on cognitive development of the population [28].

Due to the inadequacy of breast milk, mothers gave their babies animal milk, mostly from cows. For those who are well off, they gave their babies infant formula. Since cow's milk causes constipation, mothers mix the milk with water to reduce the chances of getting constipation. Infant formula feeds were least used by the mothers mostly because of the financial implication of using such feeds. One tin of infant formula costs approximately 10 US dollars yet it takes only 5 to 7 days for a baby to consume one tin. Nevertheless, a study conducted in Northern Nigeria found that the most common complementary foods introduced to infants were formula foods [29].

Under normal circumstances, women are responsible for all household chores like cooking, household cleanliness and taking care of the children, washing clothes, to mention a few. In case the mothers are busy with household chores and it is time for breastfeeding, the baby might go without being breastfed. This usually happens when the mothers do not have housemaids or helpers. The helpers might be relatives or young girls or women who are employed to take care of household chores including looking after the baby. The problem of house helpers has led to women leaving their jobs and deciding to take care of their babies. Other mothers might decide to take their babies to nursing homes when they reach six months in order to do away with the hassles of house maids. On the side of care, one mother specifically noted that fathers of the children might get jealous when the mothers look after the baby most yet babies need special

attention especially during the first six months of age.

Mothers usually feel vulnerable while breastfeeding in public [30]. Similarly, in this study, mothers (53.8%) expressed their anxiety while breastfeeding in public areas. Support from fellow women can help to overcome the perceived anxiety that might be felt. Although mothers expected to receive undesirable attention in public places, little is usually given to them [30]. This is due to the awareness of breastfeeding on demand by the community.

It is true that some cultural practices have an effect on knowledge and skills of breastfeeding [31]. In this study, 2% of the respondents noted the negative effects of culture on breastfeeding. Cultural practices that negatively affect breastfeeding were also observed in a study carried out by [32] in Tanzania. Further, [33] conducted a study in Tanga, Tanzania and reported that community beliefs influence breastfeeding since most of the mothers think that they have to feed the baby with porridge because the mother's milk alone is not enough for growth and that the child is thirsty and needs to drink water as well.

One of the beliefs that were mentioned to deter breastfeeding in this study is that babies will be choked by food if people look at them. Although scientifically this might look unexplainable, it can be seen from the view that crowding the baby while feeding increase his anxiety, hence distract his feeding. This can result in choking since babies' muscles and reflexes are not yet developed to the fullest. Good practices that were mentioned include those related to hygiene. Over 37% of the respondents noted the need of cleaning the breasts and nipples before breastfeeding.

Sores and cracked nipples, which is majorly caused by poor breastfeeding practices, was identified in this study as one of the factors that hamper breastfeeding. This was concurrent with studies carried out by [34] and [35]. Sores can be caused by using pacifiers of feeding bottles [36]. These sores discomfort the child during breastfeeding. Bottle feeding carries a high risk of morbidity due to infection and should be avoided whenever possible especially in areas where hygiene is not certain.

However, although some cultural and society practices negatively affect breastfeeding, some do promote the practice positively; for instance, having breastfeeding policies and maternity leaves. Though maternity leave, according to Tanzania government regulations is 3 months, it is debatable whether mothers should have six month-maternity leave. For working mothers, babies are most likely to cease EBF once the period of maternity leave ends [37].

5. Conclusion and Recommendations

This study has showed that mothers were knowledgeable of the importance of breastfeeding and about 92% of them were able to mention at least one advantage of exclusive breastfeeding. The information that they knew regarding breastfeeding was mostly obtained through experience and health facilities. Moreover, 54% initiated breastfeeding within one hour after delivery. Unfortunately, only 13% mentioned to have breastfed their babies on demand. Soft food which is given to babies was mashed potatoes, mashed bananas, plain porridge composed of maize flour, soft stiff porridge, porridge with other ingredients (sugar, oil and ground nuts) and *mtori* (grounded food that can be mixed with meat, bananas, potatoes, and other foods).

Though a lot of sensitisation has been done on the benefits of breastfeeding to both the mother and her baby in various media outlets, the practice of both EBF for six months and complementary breastfeeding for up to two years is still low. Receiving information does not necessarily translate to change of behaviour. Although breastfeeding in any place other than at home was revealed to be one of the factors that affect EBF, further research by public health professionals is needed to explore more qualitative aspects that lead to low practice of EBF. Besides, legislation to key in improving negative cultural, social and institutional factors that deter breastfeeding.

Mothers usually initiate complementary feeding on whatever feeds they can afford. There is need to conduct a longitudinal nutritional survey of the contents of the foods that the babies take in order to see whether the foods given to them meet the nutritional requirements of the bodies, most especially those of micro nutrients. There can be a risk of malnutrition and improper development if not all essential nutrients are provided during this important developmental stage of the children. This can also be tackled through community sensitisation on the food that is supposed to be provided to these children.

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