

# Factors Influencing Exclusive Breastfeeding amongst Breast Feeding Mothers in Kakamega County, Kenya

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**Abstract:** Objective: The objective of the study was to determine the factors influencing exclusive breastfeeding amongst mothers in Kakamega county, Kenya. Design: The study was a cross-sectional analytical study and Quantitative methods were adopted. Setting: The study was carried out in Kakamega County. Sample: The respondents were sampled by random sampling among women attending outpatient department at Ap line Hospital, Kakamega County, Kenya; the researcher drew a predetermined number using simple random sampling (n = 170) Analysis: Data was analyzed through descriptive statistics, chi-square test of independence and logistic regression. Main outcome measures: Knowledge and practice of exclusive breastfeeding. Results: 144(85%) of the respondent said they were counselled on breastfeeding. 110(65%) said that time of breastfeeding attachment was more than one hour. Majority (n=121, 71%) agreed that breastfeeding protects the baby from illness while 115(68%) said they did not express breastmilk for baby to feed when not at home. On practices, 56% (n=95) practices early weaning while 115(68%) said they practiced exclusive breastfeeding. Bivariate analysis on client factors that are associated with exclusive breastfeeding shows that there was a borderline significant relationship between level of education and practice of exclusive breastfeeding in the study area (OR: 0.7; 95% CI: 0.5 – 1.0; p=0.06). Similarly, women who had hospital deliveries were about two times more likely to practice of exclusive breastfeeding in contrast to those who had home deliveries (OR: 1.7; 95%CI: 1.1 – 2.8; p=0.02). Conclusion: Despite majority of breastfeeding mothers having knowledge others do not practice exclusive breastfeeding due to misconception and needs therefore maternal knowledge, attitude and belief have significant association with the practices of exclusive breastfeeding among breastfeeding mothers. It is recommended that, there is need to emphasis early initiation of breast altered within 1 hour of birth and the importance of breastfeeding the child on demand to sustain quality of breast milk production through antenatal and postnatal chronic. mothers need counselling if they doubt their breast milk is in adequate or going back to work that strong breast milk is safe for the infants.

**Keywords:** Exclusive breastfeeding, Kakamega county, Knowledge of exclusive breastfeeding, sensitization.

## 1. Background

Breast milk is the optimal food for infants and it benefits are numerous (Green, *et al*, 2003). It contains bacterial and viral antibodies, including relatively high concentrations of secretory immunoglobulin (IgA) that prevents microorganisms from adhering to the intestinal mucosa. It also contains substances that inhibit growth of many common viruses such as rotavirus, norovirus and adenovirus. Antibodies in human milk are thought to provide local gastrointestinal immunity against organisms entering the body via this route (Robert *et al*, 2011). Macrophages in human milk may synthesize complement, Lysozyme, and lactoferrin. In addition, breast milk contains lactoferrin, an iron-binding protein that is normally about one-third saturated with iron and has an inhibitory effect on the growth of *Escherichia coli* in the intestine. The lower pH of the stool of breast-fed infants is thought to contribute to the favourable intestinal flora of infants fed human milk in contrast to formula by containing more bifid bacteria and lactobacilli; fewer *E. coli*. This helps to protect against infections caused by some species of *E.coli*. Human milk also contains bile salt-stimulated lipase, which kills *Giardia lamblia* and *Entamoeba histolytica*. Transfer of tuberculin responsiveness by breast milk suggests passive transfer of T-cell immunity (Robert *et al*, 2011).

Breast-feeding is associated with fewer feeding difficulties, fewer incidences of allergy and intolerance to bovine milk. These include diarrhoea, intestinal bleeding, occult melena, colic, and atopic eczema (Robert *et al*, 2011). It also has

well-established short and long-term benefits, particularly the reduction of morbidity and mortality due to infectious diseases in childhood such as Otitis media, diarrhoea, upper respiratory tract infections, sudden infant's death syndrome SIDS, necrotizing enter colitis NEC (Lissauer *et al*, 2007) and decreased risk of obesity, hypertension, high cholesterol, type1 DM later on in life. Also, breastfeeding is associated with good performance in intelligent test (Lissauer *et al*, 2007, Bernado *et al*, 2013). But of disadvantage is its association with maternal-to-child transmission of HIV, but the risk is influenced by duration and pattern of breast feeding and maternal factors, including stage and severity of HIV/AIDS, immunologic status and presence of mastitis (William *et al*, 2003).

There are several practices that support the success of exclusive breastfeeding. Antenatally, giving mothers information about the benefits of breastfeeding might influence those who have not already made the decision to breastfeed. This also builds their confidence. Kistin *et al* in 1990, as cited by WHO, did a study on the effects of antenatal education on breastfeeding rates. In that study, it was found that mothers who attended the antenatal classes started breastfeeding more than those who did not attend the classes (45% compared to 22%) (WHO, 1998). Another good practice that supports the success of exclusive breastfeeding is avoidance of prelacteal feeds. Giving prelacteal feeds increases the risk of infection in infants, and if given by bottle, may interfere with suckling (step nine of successful breastfeeding) (WHO, 1998). In a study done in Israel by Leefsus and Habafsky in 1980 as cited by WHO, it

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was found that infants who receive one or more prelacteal formula feeds were less likely to be fully breastfeeding at 6 weeks (WHO, 1998). Also Kurinij et al., in 1984, USA, as cited by WHO, found that infants who received water in the hospital were significantly more likely to stop breastfeeding by 4 months of age than those who did not receive water (WHO, 1998).

In a study done in Ghana, breast milk during pregnancy was believed to be warm and could cause diarrhea to the baby. There was also the existence of pakopillamago or the use of herbal concoction to bath the baby. This herbal substance was also given to the baby to drink. In that work it was demonstrated that infant feeding and for that matter exclusive breastfeeding was heavily influenced by families of the breastfeeding women. In a study done in Mauritius, it was found that only 17.9% of women exclusively breastfed for 6 months, with mean duration of exclusive breastfeeding 2.1 months. Addition of water was the main reason for not exclusively breastfeeding (19). In Kenya, a study done by Daniel Ganu showed that 42% of mothers exclusively breastfed, 64% initiated breastfeeding within two hours of delivery, 66% strongly agreed that colostrums should be discarded and 28% agreed that breast milk alone is inadequate for their babies up to 6 months of age. A similar study done in Sudan found that almost all mothers, 99.9% initiated breastfeeding on the first day mostly (83.2%) between 1-5 hours following delivery. The presence of sore or retracted nipples had a negative effect on the duration of breastfeeding. The majority (89.2%) thought that a new pregnancy contraindicated the continuation of breastfeeding and 67.1% reduced or stopped breastfeeding when the baby had diarrhea.

In a survey done in Somalia, it was found that knowledge; attitude and practices (KAP) on breastfeeding are mainly controlled by culture through maternal grandmothers and other elderly women in the community and are generally unsatisfactory. Most children are put on breast 2-3 days after delivery and the colostrum is not fed to the children by the majority as it is considered heavy, thick, coarse, dirty and toxic to the children's health. Pregnancy also was found to contraindicate breastfeeding, as the milk is thought to be red and poisonous to the breastfeeding infant. It was also thought to affect the unborn infant by making it weak. Breastfeeding is, however acceptable to all mothers and almost all children breastfeed on demand. Lack of knowledge, inappropriate beliefs, and very close birth spacing are the major obstacles to successful breastfeeding. Literature has confirmed that breastfeeding knowledge positively affects the success of exclusive breastfeeding. In a clinical trial performed in Brazil to assess the knowledge of mothers and fathers about breastfeeding and its relationship to the frequency of breastfeeding, they found that the mothers with the highest level of knowledge had 6.5 times higher chance of exclusively breastfeeding to the end of the 3rd months and 1.97 times higher chance of continuing breastfeeding to six months compared to the other mothers. In the same regard, step three of the ten steps to successful breastfeeding advocates for provision of mothers with information about the benefits of breastfeeding, as mothers' knowledge can influence their breastfeeding intention although it might not necessarily have much effect by itself.

In Africa several studies were conducted to assess mothers' knowledge on exclusive breastfeeding. In Nigeria it was found that 71.35% of the mothers had good knowledge on breastfeeding. In that study, 46% of mothers reported that breastfeeding is a contraceptive method, while 76% knew that it promotes mother, baby bond and 70% knew that it maintains mothers' weight. Another study done in a different state in Nigeria showed that only 18.2% knew that breastfeeding promotes bonding between mother and baby. 27% of mothers gave correct definition of EBF, while Ogbonna C in Jos, Nigeria found a higher response rate for the correct definition of EBF which was 82.3%. Literature has confirmed that proper positioning of the baby positively affects the success of EBF. Studies were done to assess mothers' knowledge on proper techniques of breastfeeding. Ajibuah in his study (Nigeria, 2013) reported that 52.8% of the mothers couldn't properly position their babies to breastfeed. Therefore, the objective on this study was to investigate knowledge, attitude and practices on exclusive breastfeeding amongst breast feeding mothers.

## 2. Methods

The study was conducted in Kakamega county and ethics approval was obtained from Masinde Muliro University of Science and Technology ethics board. No further approval was needed since the project did not require access to patients or personal data.

## 3. Research Design

The study designs adopted for this study was descriptive cross-sectional because they employ quantitative approaches, where self-administered questionnaires were used for data collection. A descriptive research design determines and reports the way things are (Mugenda & Mugenda, 2008). Polit & Hungler (2010) observed that a descriptive research design was used when data was collected to describe persons, organizations, settings or phenomena. The purpose of the design was to gather data at a particular point in time with the intention of describing the nature of the existing conditions (Burns and Grove, 2011). Descriptive study design was also ideal as the study was carried out in a limited geographical scope and hence it was logistically easier and simpler to conduct considering the limitations of this study (Mugenda & Mugenda, 2008). Therefore, the descriptive survey was deemed the best strategy to fulfill the objectives of this study.

## 4. Study Setting

The study was hospital based. The research study was done at Kakamega county teaching and referral hospital Shirere Sub- location, Lurambi Sub County in Kakamega County. The area is approximately 500 metres from Kakamega-Kisumu highway, situated opposite law court Kakamega town, nearest town is Kakamega town. This serves a population of around 17600 people. The community staple food is ugali, bananas, cassava, beans and vegetables. The climate of the area favors growth of maize, sugar cane and tea as well as bananas and vegetables and animals mostly

indigenous including poultry. The area receives long rains beginning from early March to August then short rains from September to October each year. The area had good transport system as the road is a tarmac road with neighboring law courts of Kakamega. The residence of AP line receives mainly preferably piped water and rainfall water which is adequately supplied throughout the year. The residents of AP line are small scale farmers as well as small business like mitumba business, boda-boda, juakali, vegetables hawkers, shopkeepers and saloon mainly. The community practices both monogamous and polygamous families; most of the facilities are also single parent families with children mostly with mothers as breadwinners in the family. Cha'nga and busaa is also brewed in slum areas and some residents consume these Liquors.

### Participants

The total target population of the study were breast feeding mothers of KCGH dispensary with children 6 to 12 months age so that they can recall their exclusive breastfeeding practices that support the success of exclusive breastfeeding for the first six months of life. Bless and Higson (2013) define a population as the entire set of people events of objects which is the purpose of research and which the researcher wants to determine some characteristics. Target population was 456 annually 38 mothers monthly. Babbie (2013) defines a population as an aggregation from which the sample is actually selected. Simple random technique was used to select sample size among breastfeeding mothers. Each individual was chosen by a change and each member of breastfeeding population has unequal chance of being selected in the population

### Questionnaire

Questionnaires were selected as data collection instruments. A questionnaire is a printed self-report form designed to elicit information that can be obtained through the written responses of subjects. The instrument comprised of the following sections: In section one, the information that was collected was the demographic characteristics. In section two, questions sought to determine breast feeding knowledge. The questions were ranked on a 2-point scale with the anchors being No=0 to yes=1. In section three, questions sought to determine the attitudes towards exclusive breast feeding. The questions were ranked on a 2-point scale with the anchors being No=0 to yes=1. In section four, questions sought to determine the practice of breast feeding. The questions were ranked on a 2-point scale with the anchors being No=0 to yes=1. To increase the validity and reliability of the instruments, the questionnaire was evaluated by experts. Then based on the feedback the final questionnaire was prepared for pre-test. The reliability of the scale of all items was found to be: Internal consistency = (Cronbach's  $\alpha = 0.70$ ).

### 5. Data Analysis

Data analysis was done using the statistical program for social sciences (SPSS) version 25. Inferential and descriptive statistics were used to analyze data. Descriptive analysis of data was done using the mean, frequencies and percentages. In this study association between the study variables was assessed by a two-tailed probability value of

$p < 0.05$  for significance. The researcher conducted analyses of normality, for the outcome variable, prior to hypothesis testing by examining kurtosis and skewness of the data. In order to test and identify possible outliers in the data, graphical assessment visuals, including scatter and box plots were used. Elimination of observed outliers was based on a case by case basis, dependent on standard deviations, and on normality and homogeneity of variance assessments. Normality was assessed using examination of the histograms by seeing how they related or deviate against a normal bell curve distribution and observing the levels of kurtosis and skewness present. Univariate analysis was used to describe the distribution of each of the variables in the study objective, appropriate descriptive analysis was used to generate frequency distributions, tables and other illustrations used to analyze knowledge of self-medication. Bivariate analysis was used to investigate the strength of the association and check differences between the outcome variable and other independent variables.

### 6. Results

170 questionnaires were correctly filled and returned which represented a response rate of one hundred percent. According to Mugenda and Mugenda (2003) a response rate of 50 percent is adequate, a response rate of 60 percent is good, and a response rate of 70 percent is very good. While we should not expect full response in studies where responding is voluntary, scholars utilizing questionnaires should aim for a high response rate (Baruch & Holtom, 2008). Firstly, the study asked the respondents to indicate their background characteristics based on the gender, religion, marital status; age-bracket and education level. The summary of their responses is given in Table 1.

**Table 1:** Background characteristics of respondents

Demographics		Frequency	Percent
<b>Religion</b>	Christian	151	88%
	Muslim	19	12%
	<b>Total</b>	<b>170</b>	<b>100.0</b>
<b>Marital Status</b>	Single	10	6%
	Married	151	88%
	Separated	9	6%
	<b>Total</b>	<b>170</b>	<b>100.0</b>
<b>Education level</b>	No education	5	3%
	Primary education	35	21%
	Secondary education	100	58%
	College	30	18%
	<b>Total</b>	<b>170</b>	<b>100.0</b>
<b>Age Bracket</b>	12-19 years	10	5.8%
	20-24 years	50	29.4%
	25 and above	110	64.7%
	<b>Total</b>	<b>170</b>	<b>100.0</b>
<b>Occupation</b>	Housewives	65	38%
	Farmers	20	12%
	Business	55	32%
	Employees	25	15%
	Others	5	3%
	<b>Total</b>	<b>170</b>	<b>100%</b>
<b>Place of delivery</b>	Hospital	144	85%
	Home delivery	15	9%
	Traditional	11	6%
	<b>Total</b>	<b>170</b>	<b>100%</b>

Findings in Table 1 revealed that, of the two hundred and forty-eight (170) respondents interviewed. Majority of the respondents 151 (88%) were married while 9(6%) were divorced/separated. 100 (58%) of the respondents were of secondary level of education while 5 (3%) had never gone to school. Majority of the respondents 151 (88%) were Christians, and 19 (12%) were Muslims. Findings in Table 2 revealed that, 144(85%) of the respondent said they were counselled on breastfeeding. 110(65%) said that time of breastfeeding attachment was more than one hour. Majority (n=121, 71%) agreed that breastfeeding protects the baby from illness while 115(68%) said they did not express breastmilk for baby to feed when not at home. On practices, 56%(n=95) practices early weaning while 115(68%) said they practiced exclusive breastfeeding. Summary of findings is in Table 3.

Married	93	54.7	45.3	1.3	0.7-2.3	0.4
Not married	77	47.9	52.1			
Level of education:						
At least secondary school	81	47.9	52.1	0.7	0.5-1.0	<b>0.06</b>
Primary school or none	89	56.6	43.4			
Occupation:						
Housewife	86	50.6	49.4	0.8	0.6-1.2	0.2
Employed	84	55.6	44.4			
Religion:						
Protestants	99	58.2	41.8	1.6	1.1-2.2	<b>0.01</b>
Others	71	47.2	52.8			
Mode of delivery						
Hospital	96	56.2	43.8	1.7	1.1-2.8	<b>0.02</b>
Others	74	42.4	57.6			

**Table 2: Knowledge items**

Variables	Categories	n	%
Counselled on breastfeeding	Yes	144	85%
	No	26	15%
Time of breastfeeding attachment	1 hour	60	35%
	More than 1 hour	110	65%
Breastfeeding protects the baby from illness	Agree	121	71%
	Disagree	49	29%
Breastmilk expressed and kept for baby when mother is at home	Yes	55	32%
	No	115	68%

**Table 3: Practices of exclusive breast feeding**

Variables	Categories	n	%
Early weaning (before 6 months)	Yes	75	44%
	No	95	56%
Length of exclusive breastfeeding	6 months & above	60	35%
	Below 6 months	110	65%
I practice exclusive breast feeding	Yes	55	32%
	No	115	68%

**Bivariate analysis of the relationship between client characteristics and practice of exclusive breastfeeding**

Bivariate analysis on client factors that are associated with exclusive breastfeeding shows that there was a borderline significant relationship between level of education and practice of exclusive breastfeeding in the study area (OR: 0.7; 95% CI: 0.5 – 1.0; p=0.06) as shown in Table 2 breast feeding was lowest among clients who had attained at least secondary school education compared with those who had primary or no education. Women who were protestants were one-and a half more likely to practice of exclusive breastfeeding than those who belonged to the religions such as Catholics and Muslims, among others (OR: 1.6; 95% CI: 1.1 – 2.2; p=0.01). Similarly, women who had hospital deliveries were about two times more likely to practice of exclusive breastfeeding in contrast to those who had home deliveries (OR: 1.7; 95% CI: 1.1 – 2.8; p=0.02).

**Table 3: Bivariate analysis of client characteristics and practice of exclusive breastfeeding**

Risk factor	N	Practice exclusive breast feeding		Overall OR	95% CI	p value
		Yes	No			
Age group:						
30 – 39 years	94	55.3	44.7	1.1	0.7-1.5	0.7
< 30 or >=40 years	76	53.8	46.2			
Marital status:						

**7. Discussion**

The main objective of this study was to investigate factors influencing exclusive breastfeeding amongst breastfeeding mothers in Kakamega county. The current study found that 144(85%) reported to have been counselled on exclusive breastfeeding. In a study by Oche, Umar & Ahmed, (2011) 54(30%) of the mothers had adequate knowledge of EBF. This is comparable to the study in Gwale, Kano with similar socio-cultural background as the study area, where 31% of the mothers had good knowledge of EBF (Illyasu, Kabir, Abubakar & Galadanci, 2005). However, the figure obtained in this study is low when compared to the 55% obtained in the study by Freed and his colleagues 17 and 98% observed in a similar study in Accra Ghana (Aidam, Perez-Escamilla, Lartey & Aidam, 2005). The current study found that 115(68%) practiced exclusive breastfeeding. In a study by Oche, Umar & Ahmed, (2011) exclusive breastfeeding (EBF) rate was found to be only 31%. The EBF rate obtained in this study was however high compared to 17% reported for Nigeria in the Nigerian Demographic and Health survey (2008) and equally higher than figures obtained in other studies (Illyasu, Kabir, Abubakar & Galadanci, 2005; Olawuyi, Onadoko, 2001).

The current study found a significant relationship between level of education and practice of exclusive breastfeeding in the study area (OR: 0.7; 95% CI: 0.5 – 1.0; p=0.06). In a study by Oche, Umar & Ahmed, (2011) education of the respondents had no influence on the practice of EBF as there was no statistically significant difference between those with formal education and informal education with regards to the practice of EBF (p=0.986). Although, 39 housewives compared to 19 civil servants practiced EBF, this was found not to be statistically significant (p=0.096). This is in contrast to another study in the same study area where the authors opined that the high rate of EBF by the mothers could be attributed to their being full time housewives and therefore they had enough time to practice EBF (Oche & Umar, 2008). Maternal education is related to knowledge of good child care practice and to household wealth. Female education has severally been described as one of the strongest determinants of the practice of EBF (Dubois & Girard, 2003). In the current study 110(65%) practiced exclusive breastfeeding below 6 months. Oche, Umar & Ahmed, (2011) found that only 1(2%) subject stopped breastfeeding before six months which is in consonance with

the study from Kano, where 2.4% of the respondents stopped breastfeeding before the age of six months. (Illyasu, Kabir, Abubakar & Galadanci, 2005). The only mother that stopped breastfeeding before six months did so because of the onset of a new pregnancy.

## 8. Conclusion & Recommendation

The following were drawn from the conclusion from the study;

- 1) From the socio-demographic characteristics of the mothers e.g. age, education level, employment status and form of employment had some influence on mothers' practise of exclusive breastfeeding.
- 2) Among the factors that hindered EBF mothers inadequate breast milk production had the highest percentage of 24% followed by mothers' work, culture and mothers' choices which all were at 6%.
- 3) Despite 71% of breastfeeding mothers having knowledge of exclusive breastfeeding for six months, 44% of mothers weaned their children earlier than 6 months of age.
- 4) 35% of breastfeeding mothers attached their infants to the breast within 1 hour of delivery while 65% of mothers never attached their infants to the breast a factor that hinders prompt initiation of breast milk and immediate involution of breast milk and immediate involution of the uterus of the mothers after delivery.
- 5) Despite majority of breastfeeding mothers having knowledge others do not practice exclusive breastfeeding due to misconception and needs therefore maternal knowledge, attitude and belief have significant association with the practices of exclusive breastfeeding among breastfeeding mothers.

### 8.1 Recommendation

- 1) All the mothers irrespective of their age, marital status, education level and employment status should be encouraged to exclusively breastfed their infants in public forums should be used as a channel to promote EBF such as media those who fail to attend antenatal and postnatal clinics promptly.
- 2) There is need to emphasis early initiation of breast altered within 1 hour of birth and the importance of breastfeeding the child on demand to sustain quality of breast milk production through antenatal and postnatal chronic. mothers need counselling if they doubt their breast milk is in adequate or going back to work that strong breast milk is safe for the infants.

### 8.2 Recommendation for further research

- 1) Additional research reassured to establish ways of improving breastfeeding counselling at the health facility to order to make it more health facility in order to make it more effective and also to identify ways to sustain optimal infant feeding practices in the community.
- 2) Similar studies need to be done in other regions to establish factors influencing exclusive breastfeeding in order to target context specific interventions

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