

*East African Medical Journal Vol. 94 No. 3 March 2017*

FACTORS ASSOCIATED WITH EXCLUSIVE BREASTFEEDING AMONG MOTHERS WITH CHILDREN AGED SIX MONTHS AND BELOW ATTENDING BARINGO COUNTY REFERRAL HOSPITAL, KABARNET, KENYA

F. J. Limo, BSc, Institute of Tropical and Infectious Diseases, Jomo Kenyatta University of Agriculture and Technology, M. Kangogo, BSc, MSc, PhD, Lecturer, Jomo Kenyatta University of Agriculture and Technology, P.O Box 62000-00202 Nairobi, Kenya and J. Mutai, BA, MA, PhD, Senior Reseacher, Kenya Medical Research Institute, P.O. Box 54840-00100, Nairobi, Kenya

Request for reprints to: F. J. Limo, Institute of Tropical and Infectious Diseases, Jomo Kenyatta University of Agriculture and Technology

## FACTORS ASSOCIATED WITH EXCLUSIVE BREASTFEEDING AMONG MOTHERS WITH CHILDREN AGED SIX MONTHS AND BELOW ATTENDING BARINGO COUNTY REFERRAL HOSPITAL, KABARNET, KENYA

F. J. LIMO, M. KANGOGO and J. MUTAI

### ABSTRACT

**Background:** Breast milk is the safest and most natural food for an infant and provides complete nutritional needs up to six months of age. It is important for growth and reduces infant morbidity and mortality. Exclusive breastfeeding reduces malnutrition and other health problems.

**Objective:** To determine factors associated with exclusive breastfeeding among mothers with children aged six months and below.

**Design:** A cross sectional study.

**Setting:** Baringo County Referral Hospital, Kabarnet, Kenya.

**Subjects:** Three hundred and thirty mothers with children aged six months and below attending Baringo County Referral Hospital, Kabarnet, Kenya.

**Results:** The results showed that 95.8% of the mothers breastfed their babies with 2.2% being exclusively breastfed. Delay in onset of breastfeeding, early complementation, use of pre-lacteal feeds was still practiced. Logistic regression showed that mode of delivery and place of delivery are significant with  $P \leq 0.05$ . Mothers who delivered in hospital were 0.018 more likely to breastfeed exclusively while mothers who delivered normally were four times more likely to breastfeed exclusively.

**Conclusion:** This study could help mothers, Ministry of Health and other non-governmental organisations working with child health programmes, in likely interventions and supporting the ongoing child survival programmes, by taking appropriate steps in enhancing exclusive breastfeeding. As mothers attend antenatal and post-natal clinics, they should be given brochures that are simple, clear to understand and addressing concerns on cultural beliefs, negative attitudes and breastfeeding problems and possible solutions. All infants should be breastfed within

**an hour of birth, on demand and up to the first six months of age.**

### INTRODUCTION

Breast milk is the safest and most common natural food for an infant. It provides complete nutritional needs up to six months of age; hence, there is no need for other food or drink prior to this age. When the baby is fed exclusively on breast milk, the method is called exclusive breastfeeding which provides growth and reduces infant morbidity and mortality(1).

Early introduction of complimentary feeds is a common practice in many areas and exclusive

breastfeeding takes different types of engagement from health system, this is because it is a social behaviour and not a medical practice. In Baringo central sub-County it is customary for mothers to give babies herbal medicine in addition to breast milk, even during the first few months of birth. Mothers who breastfeed exclusively face pressure from the community and there is no scientific proof that the herbal medicine is good for the babies. Inappropriate breastfeeding is one of the factors contributing to malnutrition of infants hence increasing the infant's morbidity and mortality.

The findings of this study could bring a better

understanding on infant nourishment. It is attained by understanding its barriers, which helps policy and decision makers to take appropriate actions. The information that was generated in this study could help mothers, Ministry of Health and other non-governmental organisations working with child health programmes with possible interventions and to support ongoing child survival programmes. This will lead to decline in malnutrition levels and other health problems, as a result of the recommendations made to encourage mothers to enhance exclusive breastfeeding.

## MATERIALS AND METHODS

*Study area and study design:* A cross-sectional study was carried out in Baringo County Referral Hospital, Kabarnet, specifically paediatrics clinic and ward, maternity ward, mother and child clinic and AMPATH clinic.

*Sample size and study population:* The study population included all mothers with children aged six months old and below. Inclusion criteria were mothers with children aged six months and below, residents of the study area and consent to take part in the study. Exclusion criteria were mothers with children above six months, those with very sick and congenital malformation children and non-residents of the study area. The sample size was determined using Wieland and Fisher formula(2).

Two research assistants were recruited to collect data. They were selected from those residing in the study area and having a minimum of secondary level education, fluent in both English and Kiswahili. The research assistants were taken through a one day training session covering the following areas: the objectives and methodology of the research, interviewing and recording skills and standard way of asking questions to the sample population.

The research assistants were exposed to a practical experience in conducting the interviews' during pre-testing of the questionnaires, the responses were recorded by the investigator and appropriate advice was given to them on areas they needed to improve on.

In order to pretest the questionnaire on length, harmony, context, questions and language, five percent of the total sample size that is nineteen questionnaires was interviewed from Kabartonjo District hospital, which is an area with similar characteristics with the study population. This was necessary to facilitate changes on the questionnaire by correcting mistakes and to ensure that the researcher would conduct the interviews in a standardised way. Both quantitative and qualitative methods were used to collect data. Quantitative data were collected by administering a structured questionnaire to mothers attending Baringo County Referral Hospital,

Kabarnet at paediatric clinic and ward, maternity ward, mother and child clinic and AMPATH clinic, randomly as per their attendance. This was done by the principal researcher assisted by two field assistants. The questionnaire captured issues such as knowledge and practices of mothers regarding exclusive breastfeeding and the factors associated with exclusive breastfeeding. Qualitative data were collected using three(3) Focus Group Discussions (FGDs) with mothers of children aged less than six months. A focus group discussions guide was developed and used in the discussions. The three FGDs were based on the ages of mothers(18-25 years and 25-31 years and over 31 years). A group of between eight and twelve mothers were purposively selected to participate in the FGDs. The Principal Researcher presided over the discussions as the two field assistants took notes.

Data from questionnaire were coded and entered into a computer using Microsoft access and analysed using SPSS software version 22. Results were presented in form of tables, bar charts and graphs using frequencies and percentages. Data from the FGDs was typed in MS word, translated into English and manually coded using themes which would be developed, based on the study objectives. Descriptive statistics, frequencies and percentages were calculated to give characteristics of variables. Cross tabulation was performed to determine relationship between certain variables and exclusive breastfeeding. Chi-square test was used to compare proportion and p value was used to interpret the significance of the statistical test at a level of 5%.

## RESULTS

*Place of delivery, mode of delivery and antenatal attendance:* Table 1 shows that majority of the mothers delivered in the hospital. Sixty seven mothers had normal deliveries. Most 275 (83.3%) of deliveries were conducted at hospital facility and 55 (16.7%) delivered at home. It was found that majority of the mothers 276 (83.6%) attend antenatal clinics.

*Infant feeding practice among the participants:* The study results pointed out that 316 (95.8 %) of the interviewed mothers breastfed their babies while 14 (4.2%) never breastfed. Nearly 16.1 % of the infants were given pre-lacteal feeds within the first day and warm water. Most of the mothers reported the main reasons of giving pre-lacteal feeds were insufficient milk and illness of the mothers.

Majority 277 (83.9%) of the mothers initiated breastfeeding within one hour after delivery while 53 (16.1%) of study participants had delayed in initiating breastfeeding as shown in Table 1. The reasons being either delayed milk secretion, delivery through Caesarian section or mother or baby was sick.

**Table 1**  
*Place of delivery, mode of delivery and antenatal attendance of respondents*

Characteristic		No. of Women N= 330	Percentages
Place of delivery	Hospital/ health facility	275	83.3
	Home	55	16.7
Type of delivery	Normal delivery	221	67.0
	Caesarian section	44	13.3
	Assisted delivery	65	19.7
Attendance to ANC during pregnancy	Yes	276	83.6
	No	54	16.4

**Table 2**  
*Frequency of breastfeeding history, first initiation and reason for delay in initiating breastfeeding*

Characteristic		No. of Women N= 330	Percentages
Breastfeeding History	Not breastfed	14	4.2
	Ever breastfed	316	95.8
Initiation of breast-feeding to the child for first time after delivery	Immediately after delivery	147	46.5
	Within one hour	116	36.7
	2 – 3 hours	38	12.0
	Days	15	4.7
Reasons for delay in initiating breast-feeding	Caesarean section	18	30.5
	Baby was sick	13	22.0
	Mother was sick	2	3.4
	Delayed milk secretion	26	44.1

#### *Breastfeeding history*

*Exclusive breastfeeding:* The results revealed that by the age of five months only 2.2% of the infants were exclusively breastfed. The rate of exclusively breastfeeding was high at the beginning of the baby's life after birth most of the infants 88.9 % were exclusively breastfed, however these rates of exclusive breastfeeding ` started to decline as the age of the infant increases.

Association between mother's level of knowledge on exclusive breastfeeding and feeding practices. The results revealed that 193 (58.5%) of the mothers had information about exclusive breastfeeding, while 137 (41.5%) had no information from 193 who had information 137 (71%) from health workers, 38 (19.7%) from media, 10 (5.2%) from relatives and 8 (4.1%) from friends, health talks, group gathering

and traditional birth attendants.

The results also indicated that 59 (17.9%) of the mothers were not shown how to breastfeed, whereas 271 (82.1%) were shown how to breastfeed among them 186 (68.6%) by health workers, 83 (30.6%) by relatives and 2 (0.7%) by friends and reading from books.

Similarly, 246 (74.5%) of the mothers were shown how to attach the baby to the breast although 84(25.5%) were not shown. The results indicates that 170 (51. 5%) were shown by health workers and the remaining 76 (23%) by relatives.

Barriers associated with exclusive breastfeeding practice. Reasons that hindered mothers not to breastfed their babies exclusively were lack of information (50%), Work demand (18.5%), insufficient breast milk (18.2%), traditions and cultural beliefs

**Table 3***Bi-variate and Multi-variate Associations for  $P \leq 0.05$* 

Bi-variate	B	S.E.	Wald	Sig.	Exp(B)
Who assisted during delivery	-0.702	.323	4.728	0.030	0.496
Mode of delivery	1.000	.607	2.718	0.099	2.718
Place of delivery	-2.032	.563	13.042	0.000	0.131
Sex of the child	-0.815	.602	1.831	0.176	0.443
Occupation	-0.324	.278	1.362	0.243	0.723
Marital status	-0.007	.260	.001	0.977	0.993
Highest level of education	0.469	.248	3.568	0.059	1.598

**Table 4***Bi-variate and Multi-variate Associations for  $P \leq 0.05$* 

Multi-variable	B	S.E.	Wald	Sig.	Exp(B)
Marital status	-0.009	0.304	0.001	0.975	1.009
Education level	-0.022	0.301	0.005	0.943	1.022
Occupation	-0.363	0.361	1.008	0.315	0.696
Sex of the child	-0.735	0.703	1.093	0.296	0.479
Place of delivery	-3.997	1.142	12.249	0.000	0.018
Mode of delivery	1.511	.575	6.901	0.009	4.529
Who assisted during delivery	0.854	.738	1.338	0.247	2.349

Association between socio-demographic characteristics using binary logistic model, two variables are statistically significant which are mode of delivery and place of delivery with  $P \leq 0.05$ . Mothers who delivered in hospital are 0.018 more likely to breastfeed exclusively in Table 3. Mothers who delivered normally are four times more likely to breastfeed exclusively as shown in the Table 4 above.

## DISCUSSION

The study findings are in concurrent with other studies (3) and (4) which shows that breastfeeding is a common practice. From this study 95.8% mothers were breastfeeding their babies. Although breastfeeding is a common practice the findings of this study shows that the proportion of the mothers who exclusively breastfed their infants as per the age of five months only is 2.2%. The finding shows that 97.8% infants were given other liquids before six months of infant life, this is in agreement to the findings of another study (5) done in parts of Africa, which found exclusive breastfeeding as a rare practice due to; cultural beliefs that infants need to take herbal medicine for proper immunity, only breast milk cannot satisfy the baby after three months of age and family work demands.

Breast milk has three components that are lifesaving; oligosaccharides which is a type of sugar that stops the bacteria from attaching the cell, anti-bodies that protects the immune system and

lactoferrin that kills bacteria and viruses(6).

The results of this study showed that 53.5% of the mothers who delayed in initiating of breastfeeding were mothers who delivered through Caesarean section, baby or mother was sick and delayed in milk secretion.

Studies of infant feeding decision is an influential role, it shows that mothers do not have much control over infant feeding decision making. This is because significant people exert a substantial influence over the breastfeeding decisions(7). In addition the attitudes of the father and grandmother of the baby bring their own practice and beliefs (8). The findings from this study reveal that 15.1% of the mothers made their own decisions. The findings of this study is in consistent with the above suggesting that husbands should accompany their wives to antenatal clinics to be informed so as to provide support to their wives in exclusive breastfeeding practice.

The results revealed that the more information on knowledge and practice of exclusive breastfeeding, the more likely the practice. It was also found that health workers were the main source of exclusive breastfeeding information given to the mothers. From the report of study participants, majority of them attended antenatal clinics hence had information on exclusive breastfeeding, therefore appropriate information to health workers enhances exclusive breastfeeding.

Previous studies(9) and(10) showed that



exclusive breastfeeding was significantly associated with the place of delivery. The results in this study is consistent with the above, since the mothers who were assisted by health workers were 50% more likely to breastfeed exclusively and mothers who delivered in hospital had a significant relationship with 87% more likely to breastfeed exclusively.

The findings indicated that mothers perceived the following barriers to exclusive breast feeding; work demand, insufficient breast milk, insufficient information about exclusive breastfeeding ,baby refusing to breastfeed , mother or baby being sick, distance to work place ,cultural beliefs, advice from relatives and friends and maintaining body structure. They suggested the following, to help support mothers in exclusive breastfeeding; husbands should provide needs for the family and support their wives in the practice, work place should have baby care centers, breast milk pump should be at affordable and available price, promotion on importance of exclusive breastfeeding.

In conclusion, exclusive breastfeeding practice in this community is rare because majority of the infants are given pre-lacteal feeds before the age of six months. Over half of the mothers do not make their own decisions regarding breast feeding.

Health workers and existing non-governmental organizations in the community should be provided mothers with reliable and sufficient information on exclusive breastfeeding, since their influence is highly appreciated in the society.

Place of delivery and assisted mode of delivery were significantly associated with exclusive breastfeeding. This implies that mothers should be encouraged to visit ante-natal clinics during pregnancy and to deliver in hospitals.

### RECOMMENDATIONS

- All infants should be breastfed within an hour of birth, on demand and up to the first six months of age.
- Strategies approved by the health workers and Non-government Organizations to encourage exclusive breastfeeding targeting the key role players who are; fathers, traditional birth attendants and all grandmothers in influencing mothers to either exclusively breastfeed or not .
- As mothers attend ante-natal and post- natal clinics, they should be given brochures that are simple and clear to understand. Also, addressing concerns on cultural beliefs, negative attitudes and breastfeeding problems and solutions.
- County government and community based organizations dealing with child health programs should form support groups of mother to mother, peer counselors and community based interpersonal communication in the county.
- The government should advocate policies to provide financial support to those mothers in informal sectors who have infants less than six months.
- Health workers should be trained on policies of breastfeeding which should be kept to date through refresher training.
- Further research should be done on ways of improving breastfeeding counseling at the health facility in maternal and child clinics to make it more effective in putting up infant feeding practices in the county.

### ACKNOWLEDGEMENTS

To Elvis Kirui for reviewing this manuscript, Ben Limo, J. C. Kurui and Titus Cheboi for their cooperation and assistance in ensuring quality data during data collection. I also acknowledge mothers who volunteered to participate in this study.

### REFERENCE

1. White, E. Breastfeeding and HIV/AIDS: the reasearch, the response, the womens response. *S.l. : Jefferson N.C. MC Farland*, 2006
2. Wieland, G. and Fisher, K. Sample size determination by Karl Fischer titration theory and application. *Darmdt : Kila kisserger*, 1998. 4:56.
3. Riordan, J. and Wambach, K. Breastfeeding and human lactation. *S.l.: Sudbury, MA, Jones and Bartlett* , 2009. 4:51.
4. Kourtis, A. P. and Bulterys, M. Human immunodeficiency virus type 1 (HIV-1) and breastfeeding: Science, research advances. *New York: Springer*, 2012. 6:58.
5. Liamputtong, P. Infant feeding practices: A cross-cultural perspective. *New York: Springer*, 2012. 8:198,186 and 235.
6. Uruakpa, F. Colostrum and its benefits a review nutritional research colostrum and its benefits a review nutritional research colostrum and its benefits. *Canada : S.n., 2002, Vols. 22:755-767.*
7. Lauwers, J. and Swisher, A. Counseling the nursing mother: A lactation consultant's guide. *S.l. Sudbury, Mass, Jones and Bartlett*, 2016.
8. Freire, W. Nutrition and an active life from knowledge to action. Washington, D.C., Pan American Health Organization, Regional Office of the World Health Organization: 46. Nutrition and an active life from knowledge to action. *Washington, D.C. : Pan American Health Organization*, 2005.
9. De sevo, M. Maternal and newborn success, Q & A review applying critical thinking to test taking. *S.l: Philadelphia, F.A. Davis*, 2013, Vol. 5.
10. Tiras, E. N. and Sia, E. M. Prevalence and predictors of exclusive breastfeeding among women in Kigoma region, Western Tanzania (abstract) *East Afr. Med. J.* 2013; 8(1).