

*Full Length Research Paper*

## **Factors affecting the adoption of exclusive breastfeeding by mothers in Chelstone, Lusaka**

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### Abstract

**Exclusive breastfeeding (EBF) is important in improving infant health. However, in spite of this knowledge among breast feeding mothers, it still remains rarely practiced in most countries, especially in low-income settings. According to studies adoption of EBF in Zambia stands at 46.7% for the whole country and out of this Lusaka province accounts for 57%. The objective of this study was to explore factors associated with low adoption of exclusive breastfeeding and specifically to, assess factors related to social–culture and economic. The study design was descriptive cross section which used both quantitative and qualitative method with its study site being Chelstone clinic urban in Lusaka district. This site was conveniently selected in order to enable mothers from high, medium and low density areas to attend. A random purposeful sampling procedure was used on all women that visited the clinic and met the selection criteria. Structured questionnaire was used to collect quantitative data from 309 respondents which were analyzed by using STATA 11. The findings from this study indicate that EBF is still low (52.1%) among breast feeding mothers in areas surrounding Chelstone clinic in Lusaka. The Chi-square tests showed that there was no association between EBF demographic and economic factors. However, EBF practice was strongly associated to spouses (<0.01), support mothers receives from other EBF mothers (<0.01), cultural practicing especially among the Bemba, Chewa, Kaonde, Lozi, Lunda, Luvale and Tonga speaking people of Zambia (0.014) and presence of neighborhoods practicing EBF (0.05). However, after adjusting for confounding, only spouse (<0.01) and EBF(<0.01) had a greater influence on the mother's ability to practice EBF.**

**Keywords:** Adoption, Economic Factors, Exclusive breastfeeding (EBF), Social Class, Socio-cultural factors.

## **INTRODUCTION**

ZAMBIA'S infant mortality rate (IMR) is one of the highest in developing countries standing at 70 deaths out of every 1000 births (CSO, 2007). This performance is far below the Millennium Development Goals (MDGs) which set target of 36 deaths out of every 1000 births by 2015. The prevailing rates are still unacceptably high, and of major concern to the health sector.

Infant mortality is caused by a number of factors

among them those related to non-adherence to Exclusive Breast Feeding (EBF) which include; diarrhea, malaria, pneumonia and human immunodeficiency virus and Acquire Immune deficiency syndrome (HIV and AIDS) (World Bank Report, 2012).

According to progress report for Zambia Millennium Development Goals for 2011 under the Progress report for Zambia, it points out that infant mortality reduction in Zambia faces major challenges due to high poverty levels, low levels of decision making by women, high maternal death, and lack of environmental protection. Therefore, this means that if IMR is to be reduced, a number of causative factors needs to be addressed that

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lead to the six major causes of infant mortality, with under-nutrition as an underlying cause of two fifths (2/5) of all child deaths (UNICEF, 2010). Zambia being party to signing and consenting to international conventions on health, it has adopted the recommendations of the World Health Organisation (WHO) on EBF as a strategy to reduce infant mortality (MoH, 2008).

Although Zambia has adopted exclusive breastfeeding as a National Policy, the adoption of this policy still remains a challenge because of a drastic decline in the number of children who are retained on EBF from 86% at birth to 46.7% by the time they are six months old a situation usually tends to increase the rate of opportunistic infections in children (CSO et al., 2007)

The general objectives of the study was to explore economic and socio-cultural factors that are associated with low adoption of exclusive breastfeeding among breastfeeding mothers.

The specific objectives were:

- a. To establish mothers knowledge on exclusive breastfeeding
- b. To determine economic factors affecting adoption of exclusive breast feeding
- c. To explore socio-cultural factors affecting adoption of exclusive breastfeeding

This study recommends that policy implementation strategies on Exclusive breast feeding (EBF) should put more effort on the Socio-cultural factors.

## Operational Definitions

In this study the following were operational definitions of key words and phrase;

**Social Class:** Refers to a group of people within a society who possess roughly the same socioeconomic status.

**Exclusive breastfeeding:** is providing an infant with breast milk and no other liquid or solid, not even water, for six months of life.

**Socio-cultural factors:** Refers to all factors that affect decision making on the part of mother to adopt and maintain best EBF practices. These are family, work environment, type and quality of health services and community influence.

**Economic Factors:** Refers to all factors that contribute to the good livelihood of a breastfeeding mother and facilitates good EBF practice. These are education level, occupation type income and food security of a household where a breastfeeding mother is found.

## RESEARCH METHODOLOGY

### Study design

The study design was descriptive cross section method

which used both quantitative and qualitative. The study documented both quantitative and qualitative data on EBF. In order to validate aspects of data collection various techniques were used.

### Variables

The dependent variable was exclusive breastfeeding adoption, while independent variables were; demographics, Economic status and Socio-cultural factors.

### Study site and Population

The study was conducted in Lusaka district of Zambia. This is because Lusaka has mixed class representation of households that fell into high, middle and low income groups. This made it more ideal in finding out the various factors that could be affected by EBF as opposed to rural settings that may have had homogenous factor(s) distribution in relation to cities like Lusaka.

Chelstone clinic was found to be an ideal the contact point for mothers coming from parts of Avondale (low density area), Chelstone (middle density) area and Kamanga compound (high density area).

### Inclusion criteria

- Breastfeeding postnatal mothers with babies between 0-59 months residing in Kamanga, Chelstone and Avondale areas in the last 24 months and were attending under fiver clinic at Chelstone clinic.

### Exclusion criteria

- Breastfeeding postnatal mothers with babies between 0-59 months residing in Kamanga, Chelstone and Avondale areas in the last 24 months who were not attending under fiver clinic at Chelstone clinic.

### Sampling

This study was conducted within a population of mothers practicing breast feeding who were residing and attending Chelstone clinic at the time of study. This meant that the sample was selected based upon three social-economic categories such as; high class, middle class and low class.

In order to have an evaluation control (contrast) both exclusively and none exclusively breastfeeding postnatal mothers were recruited from the clinic using under five records. This also allowed drawing reasons for and non-compliance to EBF. Recruitment was done at the

children's clinic and targeted at mothers with children below 59 months of age. Some of these mothers formed part of focus group discussion in their respective locations in order to generate an in-depth discussion on EBF perceptions.

### Sample size

The following formula was used for calculating the sample size.

$$N = \frac{z^2 \cdot p(1-p)}{d^2}$$

Where;

N = required sample size

z = desired confidence interval of 95% (the z score / value of 1.96)

p = the estimate of the proportion of mothers attending both under five and antenatal consistently which is 0.35%.

d = absolute precision required of 0.1 (marginal error) = 0.05

The required sample was therefore 350 and of these, 41 were rejected which left available survey population of 309 respondents.

### Data collection

Descriptive cross section study design was used. The study documented both quantitative and qualitative data on EBF. A total of 309 semi structured questionnaires were used to collect quantitative data while three focus group discussions (FGDs) were used to collect qualitative data. The questionnaires and FGD guides were administered by three trained researchers.

### Data management and analysis

The quantitative data was entered into a computer using EPI data software and analysed statistically using STATA 11 to generate tables of frequencies and associations. Chi-square was used to determine associations. Multivariate analysis was used to adjust for confounding factors. The triangulation of the findings in order to establish the truth was done by comparing quantitative and qualitative data.

Qualitative data was analyzed by arranging data in groups thematic as described by Michael Quinn (2002). This method involves identification of all common issues during FGD presentations and discussions. This was done by engaging mothers during FGDs on issues affecting EBF and this was later followed by identifying the main themes that summarized all views collected.

### Ethics

Ethical consideration was taken into account when

conducting this research. An approval was obtained from ERES Converge Research Ethics Committee and Lusaka District Health Office. During the study, a written consent form was administered to all interviewees to seek their willingness to participate in the study and assurance was made that findings would be for academic purpose only. It further stated that participation is solely voluntary.

## RESULTS

The study involved 309 EBF mothers and out of these 103 (33%) came from Kamanga, 46 (15%) from Avondale while 160 (52%) came from Chelstone. Majority of these mothers were married (82.5%). In addition, most of the mothers had attained secondary and tertiary education level (40.8%). In terms of employment status, those who were employed accounted for 48.5% and a good proportion were getting a monthly income ranging from K1000 to K2500 (75.5%). Table 1.

Among the social cultural variables investigated for effect on EBF practices among women, only presence of spouse and EBF mothers had a significant effect. Table 2.

### Effects of demographic factors on EBF

All demographic factors considered in this study had little or no effect on the mothers' ability to practice EBF. However for those who practiced EBF in the age groups 15-24 (53.7%), 25-34 (51.2%) and 35-49 (45.5%) showed that they did not differ significantly with those who did not practice within the same age groups with a  $p=0.73$ . Similarly, in respect to marital status ( $p=0.215$ ), township of residence ( $p=0.177$ ) indicated that they did not differ significantly with those who practiced and did not practice EBF.

### Economic factors affecting EBF

Those respondents who practiced EBF with no formal education and up to primary school level accounted for 50 (47.2%), secondary education 72 (57.1%) and tertiary education 39 (50.7%) did not differ significantly with those who did not practice in the primary 56 (52.8%), secondary 54 (42.9%) and tertiary 38 (40.3%) education levels ( $p=0.304$ ). The trend was similar for occupation ( $p=0.472$ ) and income level ( $p=0.686$ ).

### Socio-cultural factors affecting EBF

The results indicated that significant difference in those who practiced EBF and those who did not practice under all socio-cultural factors considered in this study.

**Table 1.** Characteristics of the Study Population

Variable	Exclusive Breast feeding done						p-Value
	Breastfed		Did not breastfed		Total		
	Yes	%	Yes	%	Yes	%	
<b>Mother's Age (Years)</b>							
15-24	66	53.7	57	46.3	123	39.80	0.73
25-34	89	51.2	85	58.8	174	56.31	
35->	6	45.5	6	54.5	12	3.88	
<b>Marital Status</b>							
Single	24	44.4	30	55.6	54	17.48	0.215
Married	137	53.7	118	46.3	255	82.52	
<b>Township</b>							
Avondale	29	63	17	37	46	14.89	0.177
Chelstone	84	52.5	76	47.5	160	51.78	
Kamanga	48	46.6	55	53.4	103	33.33	
<b>Education Level</b>							
Primary	50	47.2	56	52.8	106	34.3	0.304
Secondary	72	57.1	54	42.9	126	40.78	
Tertiary	39	50.7	38	49.3	77	24.92	
<b>Employment Status</b>							
Employed	86	53.4	73	49.3	150	48.54	0.472
Not Employed	75	46.6	75	50.7	159	51.46	
<b>Income levels (Zambian Kwacha)</b>							
1000-2500	116	51.8	108	48.2	224	75.49	0.686
2510-3500	10	62.5	6	37.5	16	5.18	
3510+	35	50.2	34	49.3	69	22.33	
<b>Cultural support</b>							
Support	107	57.8	54	43.6	161	52.1	0.014
Does not support	78	42.2	70	56.5	148	47.9	
<b>Support from Spouse</b>							
Supported	137	59.8	24	30.0	161	52.1	>0.01
Not supported	92	40.2	56	70.0	148	47.9	
<b>Support from other women</b>							
Supported	95	62.5	57	37.5	152	49.2	>0.01
Not supported	66	42	91	58	157	50.8	
<b>Presence of EBF mothers</b>							
Present	95	59.8	66	44	161	52.1	>0.01
Not present	64	40.3	84	56	148	437.9	

**Table 2.** Multivariate analysis results on the impact of selected variable on EBF practice

Variables	95% C.I	p Value
Spouse	0.16 - 0.41	<0.01
EBF Mothers	0.06 - 0.01	<0.01

Culture of the mother ( $p=0.014$ ), support from the spouse ( $p<0.01$ ), support from other women ( $p<0.01$ ) and presence of EBF mothers in the neighborhood ( $p<0.01$ ) had a great influence on the mothers ability to practice EBF. However, after adjusting for confounding (multivariate analysis) only spouse and presence of EBF mothers were strong predictors of EBF practice.

## DISCUSSION

This study aimed at exploring economic, social-culture and other factors that are associated with low adoption of exclusive breastfeeding among breastfeeding mothers.

Under economic factors, the variables that were

taken into consideration were; education level, occupation, and income level. The results revealed that there was no significant difference in levels of those who were practicing EBF. These findings are in line with a study conducted by Mulenga (2011) who concluded that there was no relationship between education levels and exclusive breast feeding.

This finding could be attributed to the fact that all mothers received the same knowledge on EBF during their antenatal and under five clinics. It is also clear that although a mother may not be adequately literate, the health extension service given by health workers provides relevant knowledge for both less and high literate mothers on EBF. The findings from this study is contrary to the findings by Bwalya et al. (2006) who stated that education levels had influence on EBF practice.

This study has furthermore revealed that, health education talk at the health facility does not guarantee that all women taught would practice EBF. Thus out of all women who reported having heard about breastfeeding, only half of them said they were actually practicing EBF. These findings are in agreement with Bwalya et al. (2006) where mothers were aware of the concept of EBF and had a positive perception about it, although this did not translate into them actually practicing EBF.

Occupation level was not associated with EBF practice and this was equally applicable to income levels. Women who were employed and practiced EBF did not differ significantly to those who were not employed and practiced EBF. Similarly, those getting lower income and practicing EBF did not differ significantly with those who were on high income level. Occupation was however, cited as one of the reasons during FGDs that made EBF a challenge to some mothers especially those in formal employment. This is because women in formal employment had indicated that they usually pressed breast milk for their babies in feeding bottles, a practiced which was described to be contrary to their traditional beliefs of leaving human milk in feeding bottles.

The Socio-cultural factors that were considered in this study included issues related to; culture, role for spouse, support from other mothers and presence of EBF mothers in community. The results in study showed that only spouse and presence of EBF mothers in the neighborhood had strong association with EBF. Furthermore, during FGDs with some women who were not practicing EBF, they cited their husbands and their upbringing to have had influence on practicing EBF. These findings are in agreement with Hector et al. (2004) and Debra et al. (2005) who state that social cultural factors shaped mothers mentality leading actions taken on exclusive breastfeeding. Furthermore, this finding is in support with Magawa (2012) who stated that fathers and close relatives to mothers had influence on the practice of EBF.

Generally, health personnel are doing their best in as far as EBF are concerned. This is because most of the women admitted that EBF was taught during ANC and under five clinics. Thus mother's high attendance of ANC and under five clinics is an indication that health personnel are encouraging women to seek child health, maternal and EBF services. This is in line with a study conducted by Bwalya et al. (2006) who stated that information about EBF was mostly obtained from the hospital, maternal relatives and breast feeding mothers.

### Exclusive Breastfeeding

This study has established that all mothers knew about EBF including the time for exclusive breastfeeding and reasons for not giving the child other foods or water within the first six months of the child's life. When asked why they did not give the child water and food during the first six months, in response they indicated that it was not good for the health of the child. *"Water should not be given to the baby no matter how much the child cries. Furthermore, they stated that for the baby to grow healthy, other foodstuffs should not be given to the child below six months as they affect the child and may cause diarrhea in the child"*. However, women generally agreed that no matter how long the child cried, the child should not be given any solid foodstuff for the first six months of their life. Thus, although women knew about EBF they complained of many challenges hindering its adoption because of many socio-cultural factors.

### Challenges of practicing EBF

In a study by Marko et al. 2012, stated that barriers in practicing EBF included the following; culture, mothers working outside home and perceptions of insufficient milk production. Thus although this finding is partly true, this research found out that less milk production was an experience rather than a perception. The FGDs results indicates that the main reasons for not breastfeeding exclusively according to the order of importance were due to; babies crying because of hunger, traditional beliefs, less milk production, health status of the mother, mother busy with work and mothers not wanting to lose breast shape.

On babies crying due to hunger, women indicated that babies at the age of four months, they usually cry even after having been adequately breast fed. Thus according to mothers this situation was worse with male babies who cried even after having suckled a lot. In addition, when mothers were asked why supplementary foods were introduced early, majority of the mothers said;

*"They could not see their children die from hunger, just because they should follow nurse's instructions"*

when they themselves did not follow what they taught us”.

The respondents also argued that upon introduction of the porridge, the baby usually stops crying while they continue giving the baby milk and porridge until when the child stops sucking. They also reported having challenges in breastfeeding babies exclusively as they are forced to feed the child with other food stuff by their husbands once the baby starts crying. In respect to feeding patterns, women said that they used different patterns and which forced them to start feeding their baby boys with other foods because these cry a lot due to hunger compared to baby girls.

On less milk production, the women argued that the genetic make-up could have contributed to variations in milk production among mothers while others said the use of certain contraceptives affected milk production. This is in agreement with what Murray (2014) who states among other reasons that stress and taking certain contraceptives, caffeine, smoking, alcohol and poor diet affects milk yield.

Another challenge that affected EBF was work and this was specifically directed at working mothers who only breastfed the child early in the morning and later in the evening when they knocked off. The women argued that in as much as they would have loved to exclusively breast feed their children, absence from home due to work was their main challenge.

*"It's practically impossible to exclusively breastfeed the child by the working mother. The work policy of eight hours is not fair to breastfeeding mothers. So what I normally do is to squeeze breast milk in a bottle for my baby to drink when I am at work."*

Human Immunodeficiency virus (HIV) status of the mother was also a major hindrance to EBF practice in most women. They claimed that they could only do so after consulting the nurses. Most of them said they would rather give the child formula than subjecting the child to HIV/AIDS risk and this is in spite being encouraged to breastfeed by the nurses.

For the young mothers, EBF was felt that it was not good for their body. They contended that a woman's body is never the same after breastfeeding. Thus in order for them to maintain shapes of their breast, young women would rather use formula milk than breast milk.

Traditional customs and culture are normally passed on from generations to generations through oral tradition. Most women feared to breastfeed their babies in the presence of other women as they were afraid of their children getting ill from 'Icibele'. This is a diarrheal disease and according to Bemba speaking tribes of Zambia it is characterized by vomiting and passing milky watery stool.

## CONCLUSION

Findings from this study indicate that EBF is still low

among mothers and stands at 52.1% in areas surrounding Chelstone clinic in Lusaka. Socio-cultural factors (culture, spouse, presence of EBF mothers in the neighborhood and support from other mothers) had a profound effect on women adopting EBF compared to economic factors (education, occupation and income level) a situation which suggest that policy direction and formulation on EBF should focus more on socio-cultural factors.

This study further revealed that mothers had adequate knowledge on EBF, age limit for EBF, period for breastfeeding, benefits of EBF and risks if the child was not exclusively breastfed. However, this knowledge did not translate into practical EBF as evidenced by only 161 (52.1%) of the respondents practiced EBF compared to 296 (95.7%) who had adequate knowledge on EBF.

Health education on EBF which was conducted by health personnel during ANC and under five clinics was a source of encouragement for breast feeding mothers to seek health care services on EBF. Thus, while health personnel are doing their best in educating mothers, there is need to extend extension services to the socio-cultural factors that immediately surrounds mothers practicing EBF and these include issues related to; spouses, family members and the local community. This will therefore, require redesigning the extension packages and reviewing delivery mechanisms beyond the current outreach services that are directed at ANCs and under five clinics.

In respect to issues related to insufficient milk production, there is need to carry out research related to; low milk production, habits and practices of breast feeding mothers in order to find appropriate remedial measures to be used by extension health workers on EBF.

## Competing interests

The authors declare having no competing interest.

## Author's contribution

Nchimunya Chimuka, Halwindi Hikabasa, Allan Mbewe and Alice Hazemba contributed to the proposal writing and implementing the study. Kingford Chimfwembe provided technical support in statistical analysis and interpretation of data.

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