



## MOTHERS' EDUCATIONAL LEVELS AS A BASIC PREDICTOR OF EXCLUSIVE BREAST FEEDING (EBF) IN DUTSIN-MA, KATSINA STATE, NIGERIA

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### Abstract

This study investigated mothers' educational levels as a basic predictor of exclusive breastfeeding (EBF) in Dutsin-Ma Local Government Area, Katsina State, Nigeria with a view to encourage girl child education for child bearing and caring. Descriptive survey research design was used. Four research questions were raised in which two hypotheses were drawn and tested. The population of this study comprised 177 mothers from the eleven political wards of Dutsin-Ma as at August, 2015 and the entire population was used, using cluster sampling technique. A self-developed questionnaire named English and Hausa - Questionnaire on Exclusive Breastfeeding (EH- QEBF) was used. Split-half method of reliability was used, using Spearman-Brown Prophecy Formula, with reliability index of 0.76. Frequency and percentage counts were used for demographic data of the respondents; t-Test was used for analysis at 0.05 level of significance. The findings of this study revealed that mothers in Dutsin-Ma community have good knowledge of EBF (160 (90%). Mothers practiced of EBF in Dutsin-Ma community (148 (84%). Inferentially, there is significant difference in the knowledge of EBF among mothers based on their educational levels in Dutsin-Ma community ( $P=0.004 \leq 0.05$ ). There is significant difference in the practices of EBF among mothers based on their educational level in Dutsin-Ma community ( $P=0.001 \leq 0.05$ ). Based on the findings of this study, it is recommended that girl-child education should be a top priority still in the State and educated mothers needed more convincing information and lasting encouragement to practice EBF for a healthy society before 2020.

**Keywords:** Education, Predictor, Exclusive Breastfeeding, Dutsin-Ma.

### Introduction

Education is developed from the human struggle for survival and enlightenment (Gutek, 2009). In a nutshell, education is defined as a process of acquiring experiences or skills which actually assist an individual to solve his or her life challenges

otherwise problems. Hornby (1995), saw education as a process of teaching and instruction, especially of children and young people in schools, colleges, etc, which is designed to give knowledge and develop skills.

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It is a process of inviting truth and possibility, of encouraging and giving time to discovery (Mark, 2015). Education can be deduced to a key to liberation from diseases, ignorance, traditional thinking, even poverty. It is assumed that the educated are the more and most proactive and dynamic individuals than less educated and uneducated in the society. Following this relentless impression, education is the most important aspect of a nation or any institutional organization and it plays a crucial role in the area of developments of any country (Khalid *et al.*, 2012; Sujit, 2014).

According to Ann (2007), for over a decade, education for girls has been identified as one of the best solutions to reversing the relentless trend of poverty and diseases devastating large portions of sub-Saharan Africa. In corroboration of the impact of education to a girl child and women precisely, Ann further stated that Camfed's almost 15 years of experience has demonstrated the direct and indirect benefits of educating girls and young women: reduction of rural poverty (MGD 1), improved maternal health millennium development goal 5 (MGD 5) and lower incidences of HIV/AIDS (MGD 6) are, but some of the positive outcomes when a girl is educated. Thus, it is very crucial that female child or women are educated so as to pilot their affairs themselves. Hence, it is highly impressive that women these days use to go to school for being educated against life uncertainties.

According to the Zimbabwe Human Development (2003), the literacy rates in Zimbabwe is 99 per cent and this is depicted by the study which shows over 70 per cent of the mothers having gone through secondary education. Similarly, UNESCO (2005) estimated Nigeria 70.7 per cent literacy rate, in that male is (77.8%), while female is (63.8%). It is presumed that girl and women education can be a basic predictor of exclusive breastfeeding (EBF) among other factors that vary based on

regions for child and maternal health in this era.

EBF is a health practice that cut across all regions of the world at different rates due to some reasons with the view to promoting the maternal and child health for a healthy society. Previous studies consistently reported that, exclusive breastfeeding disparities extend across racial, socio-economic, and educational lines, affecting both breastfeeding and its duration. The researchers also opined that educational level of mother is a considerable factor affecting breastfeeding initiation, EBF and its duration (Kelly *et al.*, 2006; Kiernan and Pickett, 2006; McCann *et al.*, 2007; Chin *et al.*, 2008; Chalmers *et al.*, 2009). Education amongst others was found most positively associated with EBF (Dashti *et al.*, 2010; Jones *et al.*, 2011).

According to UNICEF (2010) and Ike (2013), EBF is an act of giving baby breast milk only and nothing else, not even sips of water except for medicine prescribed by a doctor or nurse for the first six months of life. This definition is not consistent with Mgongo *et al.* (2013), who defined EBF as a method of feeding in which an infant receives breast milk from his or her mother or expressed breast milk or a wet nurse for the first six months of life and no other solids/semi-solids are given with exception of vitamins, mineral supplements or medicine. UNICEF and Ike perhaps looked at the health dangers associated with breast milk produced by wet nurse in their definition, while Mgongo *et al.* (2013) considered maternal health conditions in theirs because some mothers can be infected with infectious disease like HIV and AIDS, thereby a wet nurse can be of assistance or alternative. This is notwithstanding, lethal breast milk is dangerous to infant health and it is produce by wet nurses that could be hired or who is given charity services. The use of wet nurses is not the best at this era though some health conditions prevail that encourages its practices.

In a review of related literature, Ogbonna *et al.* (2000), studied factors influencing EBF in Jos, Plateau State, Nigeria, and their result revealed that mothers' literacy level of 75.6% had a statistically significant positive ( $p < 0.05$ ) effect on the practice of EBF. Ene-Obong (2001), added that, the mothers' knowledge is of significance on the practices of EBF. While Essien *et al.* (2009) in their study reported that, successful breastfeeding depends on mothers' knowledge about breastfeeding.

In contrast, Fatoumata *et al.* (2009), in their study on the effects of exclusive versus non-exclusive breastfeeding on specific infant morbidities in Conakry, Guinea, reported no significant difference on the mothers' education among lactating mothers in Guinea. Education of the respondents had no significant difference ( $P = 0.986$ ) between those with formal education and informal education with regard to the practice of EBF (Ojo and Opeyemi, 2012).

Numerous studies have indicated the beneficial effects of EBF in many populations. Ike (2013), who studied utilization of EBF methods among nursing mothers in Nigeria, maintained that EBF is associated with multiple advantages to both the baby and the mother. He further asserted that on the baby's side, there is acquisition of passive immunity against infections, nutrients for physical and mental development, emotional security and closeness to the mother. Through EBF about one and half million infants' deaths can be avoided each year (Jones *et al.*, 2003). EBF reduces the risk of diarrheal episodes, respiratory tract infections and allergies three times as compared to mixed feeding (Humphrey, 2005). Available evidence suggests that, the presence of probiotics in breast milk may aid a stronger immune system (Hale, 2007; Venter *et al.*, 2008). This is in agreement with the report of Camurdan *et al.*, (2007). As a temperature controlled nutrient, breast milk also contains antibodies, enzymes, and cytokines that stimulate infants' immune system (Elizabeth *et al.* 2011).

Exclusive breast feeding also influenced the health of mothers positively in that it reduces the chances of cancer on set among mothers. Mothers who breastfeed are at a reduced risk for developing postmenopausal breast cancer, having higher bone density after menopause, experience more timely and efficient return of the uterus to its pre-pregnancy state, experience reduced bleeding and increased weight loss in the postpartum period (Hale, 2007; Persad and Mensinger, 2007). Ike (2013), also suggested that nursing mothers burn 500 or more calories in a day than women who are not pregnant or nursing because they work to speed up their weight loss after child birth. He further asserted that nursing of a baby causes the womb to contract and reduce blood flow after delivery and creates a less chance that the mother will later develop breast or even cancer of the uterus. EBF also protects mothers by reducing risk of breast and ovarian cancer (Stuebe, 2009; Nemeh *et al.*, 2014).

It has been stated that, older and more educated women were more likely to be confident because they have more life experience and have the opportunity to gain more knowledge in the practice of EBF. Educated women are more proactive in almost all things especially in child rearing even breastfeeding for a good duration of time than the less-educated ones. The educated women are model to others in child feeding methods and caring (Elizabeth *et al.*, 2011).

However, Nemeh *et al.* (2014) stated that mothers and husbands with lower level of education were more likely to complete exclusive breastfeeding than mothers and husbands with higher education. The reason could be that the less educated might have no money for babies' formula and at that; they depend wholly on the breast milk of the mother in feeding the babies. It was also observed that some educated nursing mothers did not care and breastfeed their babies enough let alone, keeping breastfeeding rooming principles.

Also, Ogundipe and Obinna (2011) reported that the educated women usually try to stay secluded places to breastfeed not minding the right of the baby when breastfeeding a baby has no prescribed place to be done. Breastfeeding of a child can be done in hospitals, market places, farm and kitchen even on the road depending on the child's interest or demand. Therefore, it is against this background that the researchers were motivated and investigated mothers' educational levels as a basic predictor of exclusive breastfeeding (EBF) in Dutsin-Ma, Katsina State, Nigeria.

### **Research questions**

1. Do mothers in Dutsin-Ma have the knowledge of EBF?
2. Do mothers practice EBF in Dutsin-Ma?
3. Is there any difference in the knowledge of EBF based on mothers' educational levels in Dutsin-Ma?
4. Does difference exist in the practices of EBF among mothers based on their educational levels?

### **3.0 Hypotheses**

The following  $H_0$ s are formulated to guide this study:

$H_{01}$ . There is no significant difference in the knowledge of EBF among mothers based on their educational levels in Dutsin-Ma community.

$H_{02}$ . There is no significant difference in the practices of EBF among mothers based on their educational level in Dutsin-Ma community.

### **Methodology**

A descriptive survey research design was adopted based on the fact that it is a research design that absolutely agreed with study of representatives of entire population and the use of questionnaire for data collection. The current study included 177 mothers randomly selected from the eleven (11) political Wards of Dutsin-Ma community of Katsina State, Nigeria (Bagaggadi, Dabawa, Dutsin-Ma 'A and B', Karofi 'A and B', Kuki 'A and B', Kutawa, Makera and Shema) and who were attending post-natal

Clinics as at August, 2015 (National Programmes on Immunization, Dutsin-Ma Office, 2015). The entire population of 177 mothers was studied, using cluster sampling technique.

A self-developed interviewer administered Questionnaire written in English and Hausa on Exclusive Breast feeding (EH- QEBF) was used to elicit information from the respondent. as it had English and Hausa version for data collection. Three experts validated the instrument both face and content. Split-half method was used, using Spearman-Brown Prophecy Formula with reliability index of 0.76. Six research assistants (three males and three female health personnel) were used to administer the copies of questionnaire after a pilot study. Data generated were subjected to frequency counts and percentage for demographic information of the respondents, and student t- Test was used to test the hypotheses at  $\alpha$  level of 0.05, using Statistical Package for the Social Sciences (SPSS) 20.0 version.

### **Results**

The results of this study were based on descriptive and inferential statistical analyses. Table 1 shows the demographic information of the respondents in Dutsin-Ma Community. In this Table, out of 177 (100%) mothers studied, 112 (63.0%) of them attended Primary-Secondary Schools while, the rest 65 (37.0%) attended Tertiary institutions (Colleges of Education or Universities). It was opined that female education in Dutsin-Ma is improving, but more is needed to be done in girl-child education in the area as primary-secondary certificate holders is greater than NCE-Degree holder (112 (63.0%) > 65 (37.0%). Table 2 shows that 13% (15/112) and 3% (2/65) of primary-secondary school holders and NCE-Degree holders respectively have no knowledge on EBF, making it a total of 17 (10%) mothers who did not have knowledge of EBF in Dutsin-Ma Community.

It also shows that 97% (63/65) of NCE-Degree holders and 87% (97/112) of primary-secondary school holders have knowledge on EBF in Dutsin-Ma Community.

Regarding the practice of EBF. Table 2 also indicated that primary-secondary school holders who did not practice EBF were less

than NCE-Degree holders (12 (11%) < 17 (26%)), totaling 29 (16%) mothers who did not practice EBF. Moreover, it shows that primary-secondary school holders practiced EBF more than NCE-Degree holders (100 (89%) > 48 (74%)), making it 148 (84%) mothers who practiced EBF in the area.

**Table 1: Demographic Information of the Respondents in Dutsin-Ma Community**

Variables	Frequency	Valid per cent (%)
Primary-secondary certificate holders	112	63.0
NCE-Degree holders	65	37.0
<b>Total</b>	<b>177</b>	<b>100.0</b>

**Knowledge and Practice of Exclusive Breast Feeding in Dutsin-Ma Community**

School	No knowledge Frequency	(%)	Knowledge Frequency	(%)	Total F.	(%)
Primary-secondary school holders	15	13	97	87	112	63
NCE-Degree holders	2	3	63	97	65	37
<b>Total</b>	<b>17</b>	<b>10</b>	<b>160</b>	<b>90</b>	<b>177</b>	<b>100</b>
	No practice Frequency		Practice Frequency			
Primary-secondary school holders	12	11	100	89	112	63
NCE-Degree holders	17	26	48	74	65	37
<b>Total</b>	<b>29</b>	<b>16</b>	<b>148</b>	<b>84</b>	<b>177</b>	<b>100</b>

**Table 3: Educational Differences among Mothers Based on their Knowledge and Practices of Exclusive Breast Feeding in Dutsin-Ma Community**

Variables	N	Mean	STD	SEM	T	Df	P- value
<b>a. KNOWLEDGE</b>							
Primary-secondary cert. Holders	112	14.78	2.039	0.193	-2.888	175	0.004
NCE-Degree holders	65	15.60	1.390	0.172			
<b>Total</b>	<b>177</b>						
<b>b. PRACTICE</b>							
Primary-secondary cert. holders	112	11.03	1.929	0.182	3.908	175	0.001
NCE-Degree holders	65	9.80	2.152	0.267			
<b>Total</b>	<b>177</b>						

In the knowledge of EBF, Table 3 shows that mothers who attended primary-secondary school have mean value which is less than the mean value of mothers who attended Colleges of Education-University in Dutsin-Ma community ( $14.78 < 15.60$ )

Table 3 also shows that P-value is less than the 0.05 level of significance set in this study ( $P=0.004 < 0.05$ ). The null hypothesis which stated that there is no significant difference in the knowledge of EBF among mothers based on their educational levels in Dutsin-Ma community is rejected. Hence, there is significant difference in the knowledge of EBF among mothers based on their educational levels in Dutsin-Ma community.

In the practice of EBF, Table 3 also shows that Primary-secondary school mothers have mean score which is greater than mean score of the NCE-Degree mothers ( $11.03 > 9.80$ ). inferentially, it shows that P- value is less than the  $\alpha$  level of significance set for this study ( $0.001 < 0.05$ ). Thus, null hypothesis which stated that there is no significant difference in the practices of EBF among mothers based on their educational level in Dutsin-Ma community is rejected. Hence, there is significant difference in the practices of EBF among mothers based on their educational level in Dutsin-Ma community.

### **Discussion**

The finding of this study shows that mothers in Dutsin-Ma community have good knowledge of EBF. This result is consistent with the finding of Ethel and Fungai (2013), who conducted study on the factors that determine EBF amongst babies below six months old at Chitungwiza Central Hospital in Zimbabwe, reported that all the women interviewed were literate and were aware of EBF; this showed that girl child education is being practiced in Zimbabwe. It is also in line with the result of Agu and Agu (2011), who reported eighty-seven per cent (87%) of the mothers that had good knowledge of EBF in rural population in South-east Nigeria

The improvement in the knowledge and practice of EBF observed in the current study might be due to the Katsina State Government intervention in making girl-child education a priority and subsidized the costs of Health Services; as well as the preferential treatment given to the mothers to the level that they pay nearly nothing during and after pregnancy. It is expected that during their schooling and antenatal days the women must have gained the knowledge of EBF.

The finding of this study shows that majority of mothers practiced EBF in Dutsin-Ma Community. The result in the current study is in contrast to the report of Nemeh *et al.* (2014), who in a cross-sectional study on the factors associated with EBF practices among mothers in Syria, reported that, at 4 months, 68.8 per cent (229), of mothers were still on EBF, and 18.8 per cent (62) continued to do so at 5 months, also, by six months, the breastfeeding prevalence rate fell to 12.9 per cent (43). The present study also demonstrated that mothers in Dutsin-Ma had attained the basic educational level and above which seemed to have helped them to understand the concept of EBF through any medium of information dissemination.

It was of the opinion that mothers' exposure to the knowledge of EBF especially during their antenatal periods had aided them to start practicing the health care initiative at a level which is prerequisite for attainment of high practice that can lead to the 90 per cent as recommended by the World Health Organization as the substantial rate.

Thus, a significant difference in the knowledge of EBF among mothers based on their educational levels has been established in Dutsin-Ma community. Following the mean scores, primary-secondary school mothers have mean score which is greater than mean score of tertiary institution mothers ( $11.03 > 9.80$ ). This indicates that primary-secondary school mothers are more likely to practice EBF than the tertiary institution mothers.

The difference lies on this fact based on the mean scores of the two groups. This result is congruent with Agu and Agu (2011), who in their study reported that mothers' educational level did not have any affect the practice of EBF in Eastern Nigeria. They penned down their finding as 63 per cent of the women studied were breastfeeding exclusively at birth, but the rates had dropped to 30.5 per cent ages of four-six months irrespective of their educational levels. this result is not consistent with the finding of Chin *et al.* (2008), who studied race, education and breastfeeding initiative in Louisiana, 2000-2004, which showed that women who graduated from high school were 70 per cent more likely to breastfeed than those who did not also, women who attended college were four times more likely to breastfeed than women who graduated from high school. However, the result in the current study with the studies of Chalmers *et al.* (2009), who reported that educated and older women had more knowledge of EBF than the less educated.

The significant difference recorded in the knowledge, and practices of EBF is dependent on the earnest expectation that advanced mothers are more exposed and enlightened therefore they are likely to practice EBF than their counterpart in the context.

Following the mean scores, it is more likely that primary-secondary school mothers practiced EBF than NCE-Degree mothers (11.03 > 9.80). Thus, this is congruent with the findings of Nemeh *et al.* (2014), which revealed that mothers who received advice not to add formula to breastfeeding were significantly associated with continuation of EBF and not high education. Their result further revealed that parents with lower education ( $p=0.029$ ) were more likely to complete EBF for six months. Hence, there is significant difference between less educated and educated mothers in the practices of EBF. It also agreed with finding of Avery *et al.* (2009), whose result revealed

that women with confidence and not educational qualification in the process of breastfeeding and commitment to continue breastfeeding in spite of difficulties associated with exercise.

The result obtained in the current study also suggested that, the less educated mothers might not be financially buoyant to purchase all the necessary baby formula in augmenting the breast milk like the educated mothers do, hence the reason for their wholly dependence on their breast milk throughout the duration.

### **Conclusion**

Based on the findings of this study, it could be concluded that; mothers in Dutsin-Ma community have knowledge of EBF, and practiced EBF. It is equally revealed that mothers who attended primary-secondary schools differ from mothers who attended tertiary institutions (NCE- Universities) both in the knowledge, and practices of EBF in Dutsin-Ma community. NCE-Degree holders among the mothers have more knowledge of EBF than their counterparts, while Primary-secondary school mothers practice EBF more than the NCE-Degree mothers.

### **Recommendations**

It hereby recommended that:

1. Girl-child education should be made a priority in the State for proactive mothers in the knowledge and practices of EBF.
2. Educated mothers needed more convincing information from sound health channels and lasting encouragements to practice EBF so as to prove education the basic predictor of EBF.
3. Less educated mothers should be more pro-active on the information concerning EBF so as to avert infant morbidity and mortality.
4. Generally, mothers should be encouraged to practice EBF so as to attain 90 per cent of it as it is recommended by the World Health Organization before 2020.

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