

ASSESSING THE KNOWLEDGE, ATTITUDE AND PRACTICE OF EXCLUSIVE BREASTFEEDING IN THE NKWANTA SOUTH MUNICIPALITY

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ABSTRACT

Background: Breast milk is the ideal nutrition for infants and therefore the practice of exclusive feeding must be encouraged. The main objective of the study was to determine the knowledge level of exclusive breastfeeding among mothers with children aged 0-6 months, in the Nkwanta South Municipality of the Oti Region; Ghana, and offer recommendations. **Material and Methods:** A cross-sectional descriptive study was conducted using random purposeful sampling method. Data on maternal knowledge on exclusive breastfeeding. We analysed the data using SPSS (version 26, Chicago). Fisher's exact test was used to compare variables. A p-value of 0.05 was taken as statistically significant. **Results:** The great majority (95.0%), of mothers have heard of exclusive breast feeding ($p < 0.0001$). Health facilities were the common (82.0%) sources of information on exclusive breastfeeding ($P < 0.0001$). Approximately, 99.0% of the mother had planned to exclusively breastfeed their babies ($P < 0.0001$). The great majority (92.5%) of the mothers did not give any prelacteal feeds to their babies ($P < 0.0001$). There were positive associations between routes of delivery and time of initiation of breastfeeding ($P < 0.0001$), maternal age and knowledge of exclusive breastfeeding ($P < 0.0001$). However, no significant positive associations between exclusive breastfeeding and level of maternal education ($P = 0.145$), and occupation ($P = 0.08$). **Conclusion:** There was high awareness level on exclusive breastfeeding by mothers in the Nkwanta south municipality. The mothers have positive attitude and practice towards exclusive breastfeeding. There is the need to intensify education on exclusive breast feeding at all levels in the country.

KEYWORDS: Exclusive breast feeding, Nkwanta-South, Municipality, Oti Region.

INTRODUCTION

Breast milk is found to be the ideal initial food for infants due to its high nutritional value and the immune enhancing properties against potential infectious organisms, while the infant's immune system completes its development.^[1,2] For this reason, the WHO in 2003, recommended that infants should be breastfed exclusively up to six months of age, and thereafter, as an important part of the child's diet until the age of 2 years.^[2] Exclusive breastfeeding (EBF) means that an infant is given breast milk alone from his or her mother or a wet nurse and no other foods or drinks with the exception of vitamin supplements and medication within the first 6 months of life.^[3] The timely initiation of breast feeding by expectant mothers is therefore very important.

The initiation of breast feeding within an hour of delivery by mothers is found to vary across the globe, more so in Africa. The rates reported in some countries

covering the period 2000-2004 were: Bolivia (61.0%), Indonesia (39.0%), Egypt (52.0), Kenya (46.0%), Burkina Faso (33.0%) and Nigeria (32.0%). However, rates from available data almost within the same period (2000 – 2005), regarding the practice of exclusive breast feeding by mothers were reported to be very low. For instance, the rates were: Bolivia (54.0%), Indonesia (39.0%), Egypt (30.4%), Kenya (13.0%), Burkina Faso (19.0%) and Nigeria (17.0%), respectively, according to the Demographic and Health Surveys and Reproductive Health Survey, (2000-2005).^[4]

It has been reported more than two decades ago that, mothers who knew how long they were breastfed as children, showed a longer duration of exclusive breastfeeding and total breastfeeding than their counterparts.^[5,6]

In 2008, Black *et al.*,^[7] reported that closed to 1.4 million children die, and 44 million suffer disability globally due to substandard breastfeeding practices. The reasons why mothers do not practice exclusive breast feeding or have difficulties in breast feeding their infants are still not clear.^[8]

Knowing how important it is for infants to be exclusively breastfed, WHO and UNICEF in 2013, launched several programs including: The baby friendly hospital initiative and the International Code of Marketing of Breast Milk Substitutes.^[9,10] Their aim was to promote and support exclusive breastfeeding in response to persistent decline in the rate of breast feeding globally. Again, in 2018, the WHO and UNICEF, together with other stakeholders, promoted the importance of family-friendly policies, to promote breastfeeding, and support mothers to nurture and bond with their children.^[11] Furthermore, in 2019, to promote breastfeeding, and improve the health of babies around the world, WHO instituted the first week of the month of August as a global breastfeeding week.^[11]

With all the interventions by WHO and EUNICEF, data from WHO in 2020 indicated that 66.0% of infants are not breastfed exclusively for the recommended duration of 6 months,^[12] and this makes the lack of adherence to exclusive breastfeeding a public health concern in both the developed and developing countries.

Problem Statement

Data from the 2003 Ghana Demographic and Health Survey (GDHS) revealed the percentage of children who started breastfeeding within a day of birth in the Western and Upper East Regions to be 67.0% and 93.0% respectively. Interestingly, children of mothers assisted at delivery by medically trained health professionals have a lower reported rate of receiving prelacteal feeds (14.0%) compared with women who delivered at home (25.0%).^[13]

In 2003 and 2014, 11.0% and 16.0% of children younger than 6 months old in Ghana, were bottle fed. Furthermore, according to the 2014 GDHS, children between 0–5 months who were exclusively breastfed decreased by 17.0% from 2008 to 2014, and that those who were bottle-fed rather increased over that period.^[14] Again, it is reported in 2015 GDHS that, 52.0 % of children under six months of age in Ghana, were breastfed exclusively in 2014.^[15] The conclusion was that the country is still faced with high infant morbidity and mortality due to poor exclusive breastfeeding practice among lactating mothers.^[15]

Information regarding the attitude and practice of exclusive breastfeeding in the Nkwanta South Municipality in the Oti Region of Ghana was not satisfactory and hence the need for this study.

Main objective

To determine the level of exclusive breastfeeding among lactating mothers with children aged 0-6 months and offer appropriate recommendations.

Specific objectives

1. To assessing maternal knowledge on exclusive breastfeeding.
2. To assess maternal attitude toward exclusive breastfeeding.
3. To identify exclusive breastfeeding practices in the municipality.
4. To make appropriate recommendations on improving exclusive breast feeding in the municipality.

3.0 METHODOLOGY

3.1 STUDY AREA

The Nkwanta South District occupies the northern part of the Volta Region, and the north-eastern part of Ghana, and has four sub-districts. It lies between latitudes 7 30° and 8 45° North and longitude 0 10° and 0 45° East. To the North of the district is the Nkwanta North District, bounded to the South is the Kadjebi District, to the East by the Republic of Togo and to the West by the Krachi East District. The Nkwanta District is generally characterized by a tropical climate with dry and humid weather conditions. The rainfall experienced in the district is the double maxima type, which is from April to July and September to October. The dry season is from November to March, during this time the evapotranspiration exceeds water availability at the earth's surface. The mean annual maximum temperatures range between 24° to 39°C (76° to 103°), while the mean annual minimum temperatures are between 11°C to 26°C (52°F to 79°F). January to April are the hottest months while December has the lowest temperatures. There are two reserves in the district namely the Kyabobo and the Chai River reserves.

The current projected population of the district stands at **145,496** with an estimated annual growth rate of 1.9 percent, the Nkwanta South District had the following demographic statistics in the year 2019 (projections).

The district is underlain by the Voltarian, the Buem Volcanic formation and the Togo series. There are also clay deposits in the district especially in Chaiso and its surrounding area, which is suitable for building material and the pottery industry. The district has twenty-eight (28) health facilities including CHPS.

3.2 STUDY DESIGN

The study was a descriptive cross-sectional study conducted from 1st January to 28th February 2020.

3.3 STUDY POPULATION

All nursing (lactating) mothers with infants aged 0-6 months, attending post-natal (child welfare) clinic at the Nkwanta South Municipality, from 1st January to 28th

February, 2020. Women with children older than 6 months of age were excluded.

3.4 SAMPLING TECHNIQUE

A systematic sampling technique was employed in retrieving antenatal records of all lactating mothers receiving post-natal care at the Nkwanta South Municipal Hospital during the study period. The first lactating mother on the list was selected and subsequent ones selected by a fixed interval determined by the population size divided by the sample population. This method was chosen because it was convenient, and prevented selection bias. The sample size was calculated using Taro Yamane’s formula.

$$n = \frac{N}{1 + N(e)^2}$$

Where; n= sample size, N= study population size, e = sampling error

N=740; n=260; e=0.05

The sample size was 200.

Due to the probability of questionnaire loss, 15% of the sample size was added back to the sample to give a final sample size of 115.

PRETESTING

Some maternal and child health record books were chosen and cross checked to ensure the data needed from them will be available so changes can be made in order to get quality data.

3.5 DATA SOURCES

1. PRIMARY DATA: Maternal and child health record books of mothers and questionnaires.
2. SECONDARY DATA: From the Nkwanta South Municipal Health Directorate and Hospital.

3.6 DATA COLLECTION TECHNIQUE

This involved retrieval of maternal records from the ANC, maternity and labour wards, and the post-natal (child welfare) clinic register. The data was collected using both open and closed ended questionnaires for the period under consideration. The data extracted included;

maternal sociodemographic information, ANC, labour and post-natal records (child welfare).

3.7 DATA ANALYSIS

The data collected was inputted into IBM SPSS statistics version 21 for windows. The means for continuous variables were calculated, frequencies and percentages of categorical variables were also computed. Multinomial logistic regression and bivariate analysis of exclusive breast feeding status and other variables were conducted. A 95% confidence interval was chosen and p-value <0.05 as statistically significant.

3.8 ETHICAL CONSIDERATION

A formal letter of introduction from the Department of Community Health and family Medicine; School of Medicine, University for Development Studies, which detailed our activities was presented to the District Health Management Team through the District Director of Health Service of the Nkwanta South Municipal health directorate. Also, in the letter was a request for permission and cooperation of the hospital for this activity. The Director and medical superintendent through the matron of the hospital circulated letters to in-charges at the OPD Records Departments, Maternity and post-natal (child welfare clinics). For all departments where data was taken for this study, a verbal consent was sought from the head of the department. Furthermore, administrative protocols were duly followed and patient’s privacy and rights respected.

RESULTS

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY PARTICIPANTS

A total of 200 breastfeeding mothers aged 18 to 50 years constituted the sample size for this study. The mean age was 28±6.27 years, with median age of 27 years and a modal age group of 21-30 years (66.0%) (Table 1). Christianity 183 (91.5%) was the dominant religion practised by the participants. Approximately, 31.0% were primary/JHS graduates (Table 1), and that 19.5% of them were traders, with 19.0% being teachers (Fig. 1).

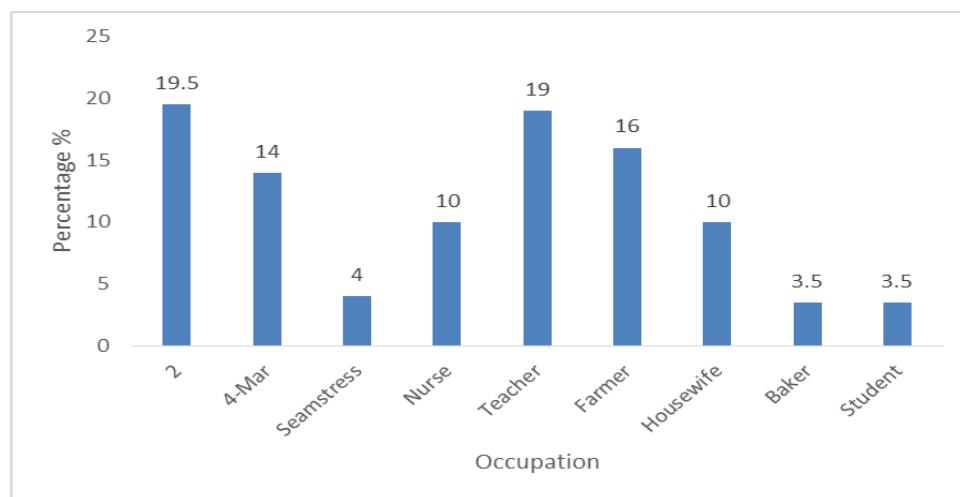


Figure 1: Occupation of breastfeeding mothers.

Table 1: Socio-Demographic Characteristics of breastfeeding mothers.

AGE (YEARS)	FREQUENCY (n)	PERCENTAGE (%)
≤ 20	11	5.5
21-30	132	66.0
31-40	50	25.0
41-50	7	3.5
TOTAL	200	100
RELIGION		
Christian	183	91.5
Muslim	11	5.5
Traditional	6	3.0
TOTAL	200	100
LEVEL OF EDUCATION		
Non-formal	33	16.5
Primary and JSS	62	31.0
SHS	53	26.5
Tertiary	52	26.0
TOTAL	200	100

KEY: JSS = Junior high school, SHS = Senior high school

At the time of interview majority, 147 (73.5%) of the women had 1-2 children (**Fig 2**).

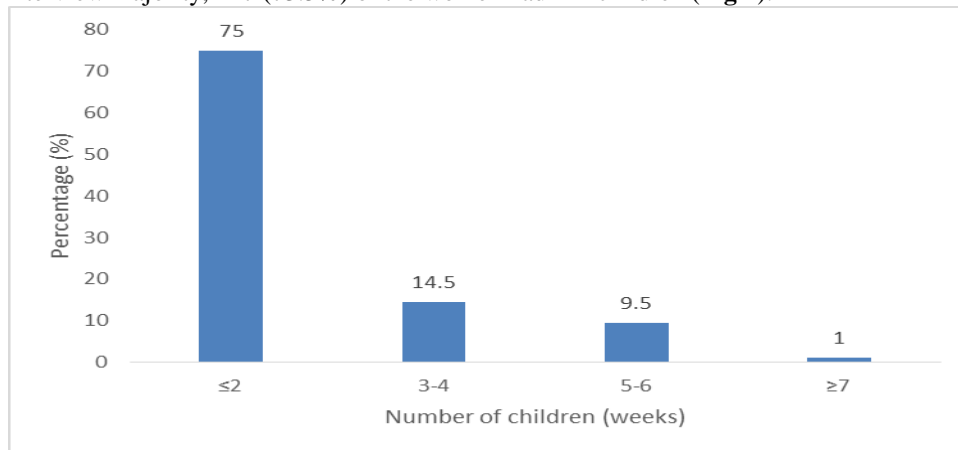


Figure 2: Number of children per mother.

The ages of the babies ranged from 1 to 24 weeks (6 months), with a mean age of 11.7±7.7 and a modal age group of 1-4 weeks (**Fig. 3**).

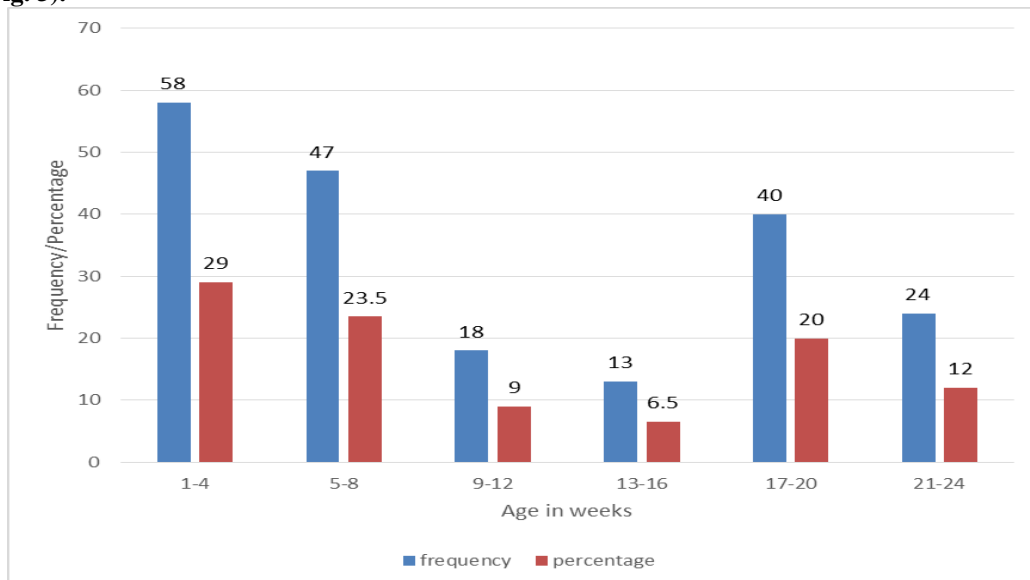


Figure 3: Age distribution of babies of breastfeeding mothers.

MATERNAL KNOWLEDGE ON EXCLUSIVE BREASTFEEDING

The great majority, 190 (95.0%) of the mother have heard of exclusive breast feeding (95.0%, $p < 0.0001$). Approximately, 83.2% had the source the information on breastfeeding from health providers, followed by the

electronic media (5.3%), friends (2.6%) and other sources (8.9%).

On the duration of exclusive breast-feeding, majority of the participants 165 (82.5%) agreed with six months duration (**Table 2**).

Table 2: Duration of Exclusive Breastfeeding among mothers.

DURATION (MONTHS)	FREQUENCY (n)	PERCENTAGE (%)
1	3	1.5
2	4	2.0
3	6	3.0
4	5	2.5
5	1	0.5
6	165	82.5
>6	6	3.0
No responds	10	5.0
Total	200	100.0

Majority of the women 185 (92.5%; $p < 0.0001$) knew the nutritional value of exclusive breast feeding to children, and the special bonding it creates between mother and child 178 (89%; $p < 0.0001$) (**Table 3**). Again, majority of the mothers 178 (89%; $p < 0.0001$) agreed that

introducing artificial feeds in the first six months of life could lead to diarrheal diseases and other infections (**Table 3**). Furthermore, 185 (92.5%; $p < 0.0001$) mothers said they will not give supplementary feeds to their babies (**Table 3**).

Table 3: Knowledge of mothers on whether breastfeeding establishes special bond/relationship between mother and baby.

Question	Frequency (n)	Percentage (%)	P-Values
Do you know the nutritional value of breast feeding to the baby?			
Yes	185	92.5	0.0001
No	15	7.5	
Does breast feeding establish any special bond between mother and baby?			
Yes	178	89	0.0001
No	22	11	
Do you know that artificial feeds substitute could lead to diarrheal diseases and other infections			
Yes	178	89	0.0001
No	22	11	
Knowing all this importance of breastmilk would you give your baby artificial feeds			
Yes	15	7.5	0.0001
No	185	92.5	
Total	200	100	

Many 127 (67.20%) of the mothers who have heard of exclusive breastfeeding falls in the age range from 21-30 years. There was a significant positive association between age and knowledge of exclusive breastfeeding (P value < 0.0001).

Table 4: Age Distribution of Mothers Who Have Heard of Exclusive Breastfeeding.

AGE/YEARS	YES	NO	P-value
≤ 20	5	6	0.0001
21-30	127	5	
31-40	50	0	

41-50	7	0	
TOTAL	189	11	

MATERNAL ATTITUDE TOWARDS EXCLUSIVE BREASTFEEDING

The great majority 199 (99.5%) of the women interviewed had a good attitude toward exclusive breastfeeding (P < 0.0001). When questioned whether they planned to exclusively breastfeed their babies, 198 (99.0%) of the participants answered yes (P < 0.0001).

PRACTICE OF EXCLUSIVE BREASTFEEDING

Majority 189 (94.5%) of the participants breastfed their babies based on demand ($P < 0.0001$). Many 171 (85.5%) of the participants had no problem with breastfeeding compared with 29 (14.5%) who complained of problems associated with breastfeeding ($p < 0.0001$). The common problem of breastfeeding identified by the women was sore nipple(s). Majority of the participants 185 (92.5) revealed that they did not give any artificial feeds to their babies, as compared to 15 (7.5%), who gave. There was a positive association

between route of delivery and time of initiation of breastfeeding ($p < 0.0001$).

ASSOCIATIONS BETWEEN EXCLUSIVE BREASTFEEDING AND MATERNAL EDUCATION, LEVEL OF EDUCATION, SOURCE OF INFORMATION, OPINION, AND OCCUPATION

There was no positive association between level of education and knowledge on nutritive value of breastfeeding (Table 5).

Table 5: Cross tabulation on level of education and nutritive value of breastmilk to baby for the first 6 months

		Do you know that breastmilk contains all the nutrients (benefits) your baby needs for the first 6 months		TOTAL	P-VALUE
		Yes	No		
Level of education	NONE	28	1	28	0.145
	Basic	53	9	62	
	SHS	50	3	53	
	Tertiary	50	2	52	
	Non-formal	4	0	4	
Total		185	15	200	

There was a positive predictive value between the source of information and duration of exclusive breastfeeding (P value < 0.0001) (Table 6).

Table 6: Cross tabulation on source of information and duration of exclusive breastfeeding.

		How long are you supposed to give it					TOTAL	P-VALUE
		1-2	3-4	5-6	>6	No answer		
Where/whom did you hear it from	Hospital	1	2	154	1	0	158	0.0001
	Friend	0	0	5	0	0	5	
	Media	0	7	3	0	0	10	
	Others	6	2	4	5	0	17	
	No answer	0	0	0	0	10	10	
TOTAL		7	11	166	6	10	200	

There was statistical significance between exclusive breastfeeding and intention of exclusive breastfeeding (Table 7).

Table 7: Cross tabulation on stands on exclusive breastfeeding and its practice on the current baby.

		Do you plan to exclusively breastfeed this particular child		TOTAL	P-VALUE
		Yes	No		
What is your opinion on exclusive breastfeeding	Good	198	1	199	0.0001
	Neutral	0	1	1	
	Bad	0	0	0	
TOTAL		198	2	200	

There was significant association between breastfeeding and occupation (Table 8).

Table 8: Pattern of breastfeeding by occupation.

OCCUPATION	PATTERN OF BREASTFEEDING		P-VALUE
	ON DEMAND	ANYTIME	
Trader	38	1	0.08
Hairdresser	28	0	
Seamstress	6	2	
Nurse	20	0	
Teacher	36	2	
Farmer	29	4	

Housewife	20	0	
House wife	20	0	
Baker	5	2	
Student	7	0	
Total	189	11	

DISCUSSION

SOCIO-DEMOGRAPHIC CHARACTERISTICS

In this study, participants were mothers with babies aged between 0-6 months from the Nkwanta South municipality. Majority (71.5%), of the lactating mothers were very young with mean age of 28 ± 6.27 years which is consistent with the mean age of 28.2 ± 6.1 reported by Keykhosravi *et al.*,^[16] in Sabzevar. The educational levels of the mothers were generally low. For instance, 31% had basic education (primary and JSS), 26.5% had up to SHS, 26% had tertiary education, while 16.5% had no formal education. Our findings are in line with Cascone *et al.*,^[17] who reported a value of 21.9% for mothers with elementary/middle school, and 29.3% with college or higher, but differ from Zielinska *et al.*,^[18] study which had 2% of the mothers in lower educational level, 3.4% having vocational education and 73.3% attending up to university. The low educational levels of the participants in this current study translated into low employment rate in the formal sector. This study found that 67.5% of the study population were not employed in the formal sector. One important finding of this current study was that, approximately, 29.0% of the babies being breastfed were within the age group of 1- 4 weeks. This is much lower than the 60.0% reported by Nukpezah *et al.*,^[19] in their study, but very much higher than the 7.7% in Aidam *et al.*,^[20] study in Accra Ghana.

MATERNAL KNOWLEDGE ON EXCLUSIVE BREASTFEEDING

Participants' knowledge on exclusive breastfeeding in this current study at the Nkwanta South municipality was high. For instance, 95.0% of the participants had heard of exclusive breastfeeding and that 82.5% agreed that it should be given for the first 6 months of life. This finding is similar to Aidam *et al.*,^[20] study in Accra Ghana, who reported that 98% of participants had heard of exclusively breastfeeding. Interestingly, our findings differ from Cascone *et al.*,^[17] study in Italy which found that 64.6% of the women had heard about exclusive breastfeeding, and that 71% of them knew that exclusive breastfeeding should be practiced for at least six months.

Of those who ever heard of exclusive breastfeeding, 83.2% of them heard it from health workers. This finding disagreed with Agunbiade *et al.*,^[21] study in Nigeria which identified friends and radio stations as their sources of information for mothers regarding breastfeeding practices. Most (89%) lactating mothers in this study admitted that, breastfeeding promotes a special bonding between the mother and the baby which is in line with the research carried out by Else-Quest *et al.*,^[22] which revealed that breastfeeding mothers reported more

attachment and infant reinforcement during breastfeeding.

We found in our study that the overall level of breastfeeding knowledge to be good. Higher scores were noticed in questions about health benefits for infants, 92.5% knew the nutritive value of breast milk and 89% also knew that artificial substitutes could lead to diarrheal diseases and other infections. This is similar to a study conducted in Warsaw, Poland by Zielińska *et al.*,^[18] where 92% of respondents in their study knew about the health benefits of breast milk for the infant.

MATERNAL ATTITUDE TOWARDS EXCLUSIVE BREASTFEEDING

In this study, participants' attitude towards exclusive breastfeeding was very positive (99.5%). This finding is very similar to a previous study conducted in Ghana by Aidam *et al.*,^[20] who reported a high positive attitude towards exclusive breast-feeding practices among mothers.

The nutritional and immunological benefits of colostrum many a times influence the breastfeeding practice of a woman. The current study found that all mothers started breastfeeding at birth. This may be attributed to the health benefits of breastfeeding provided to them during their ANC visits. Our finding is in line with previous studies in Ghana by Lartey *et al.*,^[23] and Addae^[24] which found that over 90.0% of the mothers started within the first 5 days of childbirth.

PRACTICE OF EXCLUSIVE BREASTFEEDING

Initiating breastfeeding was common in the Nkwanta South municipality, however, timely initiation of breastfeeding (TIBF) was strongly influenced by the route of delivery ($p= 0.001$). Consequently, women who delivered through the vaginal route, were more likely to timely initiate breastfeeding than those who delivered by caesarean section. This is consistent Rowe-Murray *et al.*,^[25] study which found caesarean section mode of delivery to be a significant barrier to early initiation of breastfeeding.

On the pattern of breastfeeding by occupation of participants, it was realised that, there was no significant association between maternal occupation and the pattern of breastfeeding which is in line with the study findings by Charles *et al.*,^[26] which revealed that 46.7% of mothers said due to time spent at work place will not allow for exclusive breastfeeding practice.

It is important to state that, in this current study that, no participant was reported to have used artificial teats or

pacifiers for their babies. This finding is in line with what was in Ghana by Aborigo *et al.*,^[27] study.

CONCLUSION

The study found a high awareness level of exclusive breast feeding among the mothers in the Nkwanta-South municipality. Initiating breastfeeding was common in the Nkwanta-South Municipality, however, timely initiation of breastfeeding (TIBF) was strongly influenced by the route of delivery (vaginal route or caesarean section). The mothers have positive attitude and practice towards exclusive breastfeeding. Health authorities should intensify the education on exclusive, directed at a larger population.

RECOMMENDATIONS

Community level

Health education on the importance of antenatal and post-natal clinic and supervised deliveries must be intensified at the health level.

District/Municipal Level

Strengthening maternal and child health services and the provision of adequate information and the necessary resources to lactating mothers in order to promote and sustain exclusive breastfeeding practice.

Use of local songs, drama, radio or posters and storytelling as a medium of education on the importance of exclusive breastfeeding.

National/Policy Level

Information on exclusive breast-feeding provider to health workers should be scientific and factual.

Should establish more Baby Friendly Hospitals Initiative (BFHI) throughout the country and ensuring that the ten steps of BFHI below are strictly implemented.

DECLARATIONS

Funding: This was extracted from the thesis submitted to the University for Development Studies as a requirement for award of MBChB, degree, and thus the work was self-financed.

Conflict of interest: The authors have no conflict of interest to declare.

ETHICAL CONSIDERATION

A formal letter of introduction from the University which detailed our activities was presented to the hospital management team. All in the letter was a request for permission and cooperation of the hospital for this activity. For all departments where data were collected for this study, a verbal consent was sought from the heads of the departments. All administrative protocols were duly followed and participant's privacy and rights respected.

AVAILABILITY OF DATA AND MATERIALS

The data for this manuscript shall be made available when requested for.

AUTHOR'S CONTRIBUTIONS

Mohammed, AL, Sumbo NR and Der E.M conceptualised the idea and pattern of the manuscript. Mohammed, AL and Sumbo NR collected the data, analysed and drafted the manuscript. Mohammed, AL, Sumbo NR and Der E.M read through the manuscript, edited it and approved the manuscript for publication.

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