

Maternal Knowledge and Practice on Exclusive Breastfeeding at Shirere Sub-Location Kakamega County, Kenya

Mable Wanyonyi

Lecturer, School of Nursing Midwifery and Paramedical Sciences: Department of Reproductive Health, midwifery and Child Health, Masinde Muliro University of Science and Technology, Kenya

Abstract: *Exclusive breastfeeding is defined as a feeding practice where infant receives no other food or drink besides breast milk as recommended by national and international organizations. In Kenya, infant and young child feeding (IYCF) practices are sub-optimal. The Kenya Demographic Health Survey (KDHS) 2008-09 report indicated that exclusive breastfeeding is not common as only 32% of infants less than six months of age are exclusively breastfed. The benefits of exclusive breastfeeding are outlined. This study focused on exploring maternal knowledge and practices on exclusive breastfeeding among women of reproductive age with the aim of intervening at community level and also informing policy makers in order to reduce infant morbidity and mortality rates. This was a cross-sectional study carried out at Shirere village in Kakamega County, Kenya. Mothers with children aged 6 months to 5 years were recruited in the study. Structured interviewer administered questionnaires were used to collect data. Data was analyzed using SPSS and presented using frequency tables, bar graphs and pie charts. The results of the study revealed that most mothers had deficit in knowledge on exclusive breastfeeding and majority were not practicing it in the first 6 months of infant life. There is need for more awareness and education to mothers on what entails exclusive breastfeeding and the benefits of it to enhance the practice among women of reproductive age.*

Keywords: Exclusive breastfeeding, knowledge, practices, Shirere, Kakamega, Kenya

1. Introduction

Breastfeeding is recommended as the best feeding alternative for infants up to six months and has a protective effect against mortality and morbidity. Sub-optimal breastfeeding especially non-exclusive breastfeeding in the first six months of life, results in 1.4 million deaths and 10% of disease burden in children younger than 5 years (Black et al. 2010). The current World Health Organization (WHO) recommendations on breastfeeding stipulate that breastfeeding should start immediately following delivery for the baby to get colostrum. The infant should thereafter be exclusively breastfed for up to six months of life, day and night on demand. During this period, no fluids, including water, should be given to the baby. However, there is room for giving oral medication to the infant should he/she fall sick. Breastfeeding should still continue until the child is two years of age or beyond.

Breastfeeding provides a wide variety of benefits to infants, mothers and families. For infants, breastfeeding provides immunologic protection through maternal antibodies and is an important factor in positive health outcomes (American Academy of Pediatrics [AAP], 2012). For example, breastfeeding is associated with decreased rates of infectious diseases in infants including respiratory tract infections, diarrhea and bacterial meningitis, and with decreased incidence of chronic childhood conditions including diabetes (AAP, 2012). The maternal benefits of breastfeeding include more rapid uterine involution, delayed ovulation, and decreased rates of breast and ovarian cancers. For families, breastfeeding provides a readily available food source for the infant; a healthier infant is less stress for the family and as there are no wasteful by-products, breastfeeding is ecologically sound (Carlisle, 2010).

In spite of all the recognized advantages and efforts deployed to promote exclusive breastfeeding (EBF), the practice is still much far from the recommended level. It is as low as 36% globally, 39% in developing countries and 31% in Sub-Saharan Africa (SSA) among under 6 month infants (Black et al. 2010). A prospective case control study in Sweden found that breastfeeding reduced the risk of acquiring urinary tract infections in infants up to seven months of age, with protection strongest immediately after birth (Sapana et al. 2011). Exclusive breastfeeding among infants less than six months in Sub-Saharan Africa is at 35%. About one in ten children die in the first year of life and one in six dies before the age of 5 years in Madagascar (World Bank, 2012). A study done in Ghana on the effects of early infant feeding practices on infection specific neonatal mortality and the results showed a marked dose response in neonatal mortality with increasing delay of initiation of breastfeeding (Ghwass & Ahmed 2011). It is realistic that exclusive breast feeding can significantly reduce the burden of under-five death in Africa especially SSA where 41% of global under five death occur mainly due to inadequate breastfeeding practices in combination with high levels of disease (WHO 2013)

In Kenya, infant and young child feeding (IYCF) practices are sub-optimal. The Kenya Demographic Health Survey (KDHS) 2008-09 report indicated that exclusive breastfeeding is not common as only 32% of infants under six months of age are exclusively breastfed. This situation is of public health concern and factors contributing to low uptake of exclusive breastfeeding for six months need to be identified and addressed. According to Kenya demographic health survey 2008-2009 The proportion of women initiating breastfeeding within one hour of birth is highest in North

Eastern province 75 percent and lowest in Western province at 34 percent. Cases of malnutrition, pneumonia, diarrheal diseases among other condition are commonly reported among the under-fives in Kakamega county hospital. Literature on maternal knowledge and practice on exclusive breastfeeding is however, limited in Kakamega County. This study, thus, aimed at exploring maternal knowledge and practices on exclusive breastfeeding in Shirere sub-location, Kakamega County, Kenya.

2. Methodology

Study design

This was a community based descriptive cross-sectional study.

Study setting

The study was conducted in Shirere sub- location which is located in Kakamega county along Kisumu-kakamega road. It covers an area of 17.4km(square) with a population of 297,394 and 7,738 households. It has a density of 1.9

Study population

The study targeted women of child bearing age (15-49 years) residing in Shirere sub-location.

Inclusion criteria

All women of child bearing age between 15-49 years, with at least a child between 6 months to 5 years and were residing in shirere sub – location at the time of the study and who consented were included in the study.

Exclusion criteria

Those who met the inclusion criteria but declined to participate were excluded from the study as well as those who were very sick or had sick children and unable to communicate.

3. Sampling and sample size

Sample size calculation

The sample size was estimated using the Fishers Formula

$$\text{Sample size} = \frac{n}{1+n/\text{population}}$$

$$\text{In which } n = Z^2 \times P(1-P) / d^2$$

Where: N is the desired sampling size from the population.
 $q = 1-P$ where P is the expected proportion of accessible population.

Z is the standard proportion accessible population which is taken to be 1.96

P Expected proportion of accessible population taken to be 0.50

d is the degree of accuracy or tolerable error taken to be 0.05

Calculation

$$\text{Sample size} = 1.962 \times 0.5 \times (1-0.50) / 0.052$$

$$n = 384.16$$

$$S = n / [1 + (n/\text{population})]$$

$$S = 384.16 / [1 + (384.16/200)]$$

$$S = 384.16 / [1 + 1.92]$$

$$S = 384.16 / (2.92)$$

$$S = 365$$

$$S = 365 = 100\%$$

$$\text{Final sample size} = 10\% \text{ of } 365 + 365$$

$$110 / 100 \text{ of } 365$$

Target population are 7, 645 female

$$1 + 384 / 7,645 = 365 + 10 / 100 \text{ of } 365 = 402 \text{ females}$$

Random sampling technique was used to get 402 participants from their homes in shirere sub-location.

Data Quality Assurance

Data quality was assured using different approaches. Three research assistants with medical background were recruited and trained on the use of research tools prior to the execution of data collection. 5% of the questionnaires were pretested on volunteer mothers who had similar characteristics with study population in the neighboring sub-location to test validity and reliability of the questionnaires. After pretest, some questions were modified

Data collection

The data was collected using interviewer administered structured questionnaires. Data collected included, socio-demographic characteristics of the participants, knowledge and the practices on exclusive breastfeeding.

Data analysis and management

The questionnaires were checked for completeness and appropriateness. Data was cleaned, coded, and analyzed using the SPSS and Ms Excel package. It was analysed using descriptive statistics. Frequency tables, pie charts and bar graphs have been used to present the findings.

Ethical considerations

Prior to data collection, permission was obtained from Masinde Muliro University of science and technology and the area chief. Potential participants were given oral explanations of the study in simple language and those willing to participate were required to give consent. The participants were assured of anonymity, confidentiality and were informed of their ability to withdraw from the study at any time.

4. Results

4.1 Part A: Socio-Demographic Characteristics of the Study Participants

The response rate to the questionnaires was 100% of the 402 respondents interviewed. The results reveal that most of the mothers interviewed were 15-20 years of age (44.8%), were married 66.4%, and had finished secondary education (83.3%). Most of their spouses had secondary and tertiary education at (33.3%) each. Main income earner in the house was the father (50.0%), Most of the respondents were Christians 94.3% and self employed (50.0%) majority also (44.0%) had less than 5 children. Most mothers (45.8%) had one child less than 5 years old and last but not least average birth spacing of most of the women was 3 years at (43.5%).

Age of the mothers

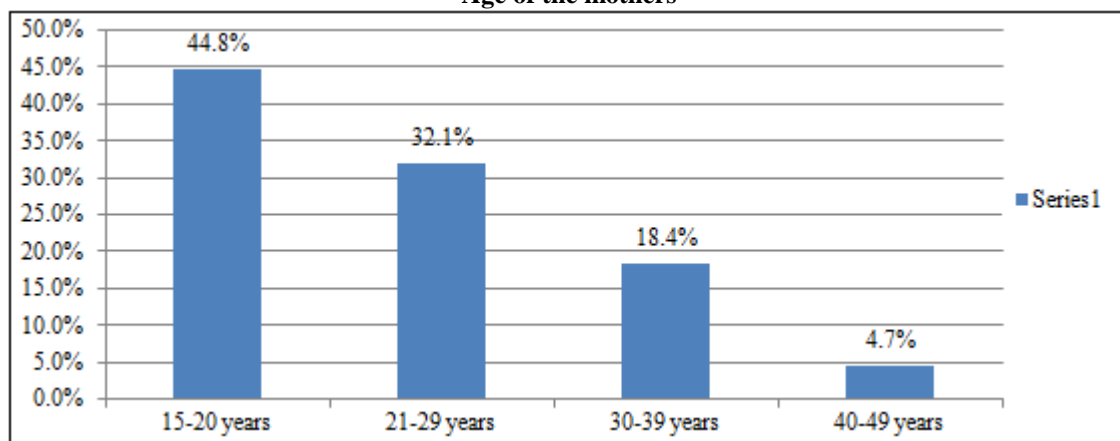


Figure 1: Age of the mothers N=402

Most of the mothers interviewed were 15-20 years by 44.8%, followed by those aged 21-29 with 32.1%, then 30-39 were 18.4% and the least were those aged 40-49 having 4.7%.

Marital status

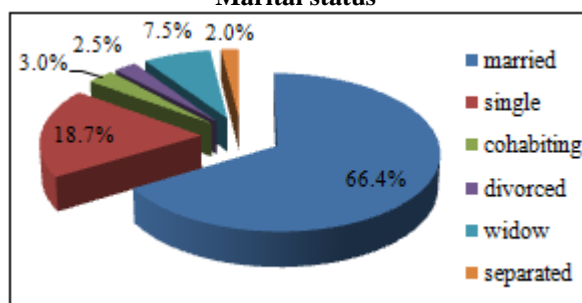


Figure 2: Marital status

A majority of the respondents were married consisting of 66.4%, 18.7% single, 7.5% widows, cohabiting were 3.0%, 2.1% divorced, and 2.0% were separated.

Highest education level attained by the mother

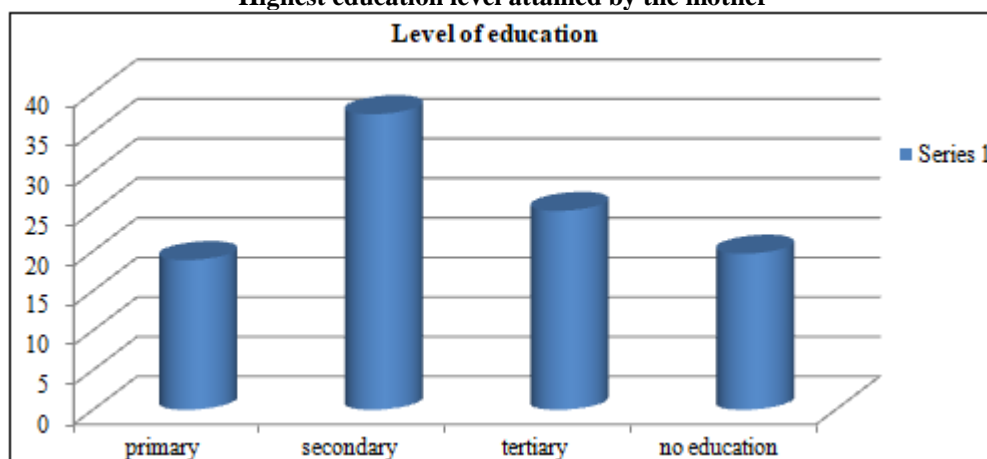


Figure 3: Highest level of education by the mothers

The distribution of education levels showed that at least the respondents were educated with the majority being secondary school leavers.

Highest education level attained by the father

Table 2: Highest level of education by the father

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no education	67	16.7	16.7	16.7
	primary complete	67	16.7	16.7	33.3
	secondary	134	33.3	33.3	66.7
	college/tertiary	134	33.3	33.3	100.0
	Total	402	100.0	100.0	

Among the respondents, a majority of the fathers (33.3%) had attended secondary school followed by a similar percentage attending college(33.3%), 16.7% made it to primary school and 16.7% had no education.

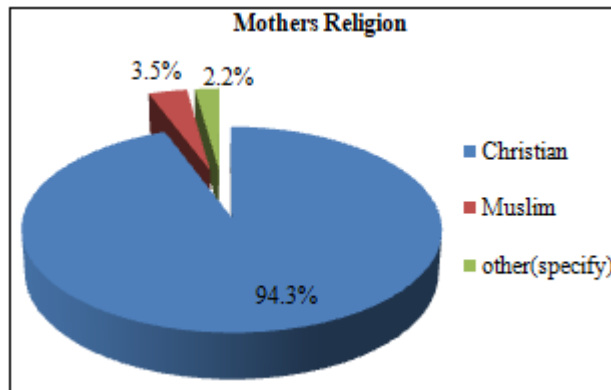


Figure 4: Religious status of the mothers

Most of the respondent's were Christians 94.3%, Muslims 3.5% and 2.2% other religions.

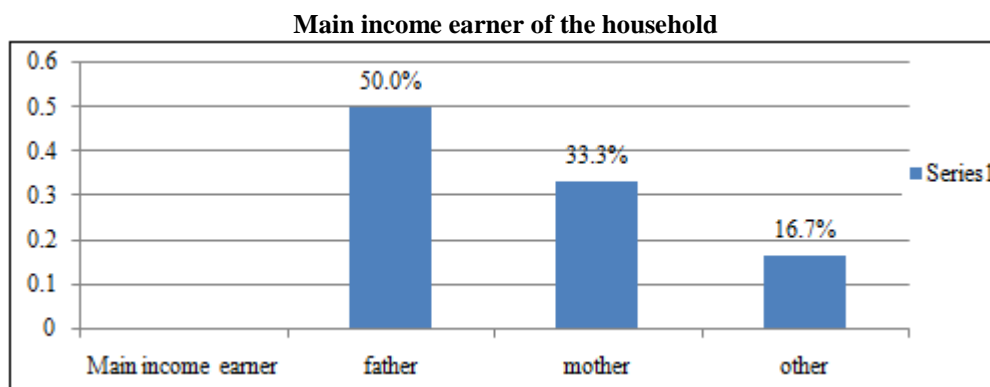


Figure 5: Main income earner of the house

The main income of the house in most cases was the father with 50.0%, mother 33.3% and others 16.7% majority of them being the close relatives of the mother.

Occupation of mothers

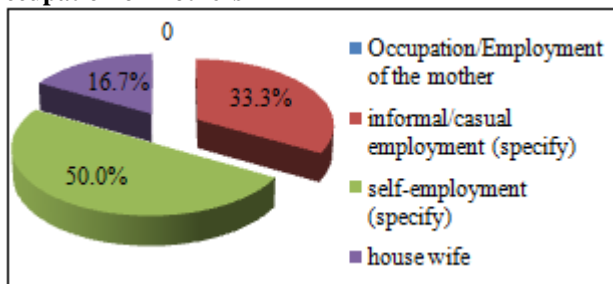


Figure 6: Occupation of the mothers

The distribution of occupation types also varied among the respondents with most of the mothers (50.0%) reporting being in self employment; (33.3%) were engaged in casual employment; and 16.7% were house wives.

4.2 Part B: Child Information

Many of the respondents (44.0%) had less than 5 children while 40.3% had between 5-10 children and 15.7% had more than 10 children.

Number of children under five years

Table 3: Number of children less than 5 years

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	184	45.8	45.8
	2	158	39.3	85.1
	3	60	14.9	100.0
	Total	402	100.0	100.0

45.8% had one child less than 5 years old, 39.3% had 2 children below 5 years and 14.9% had at least three children with the age of 5 years and below.

Average birth spacing between the children

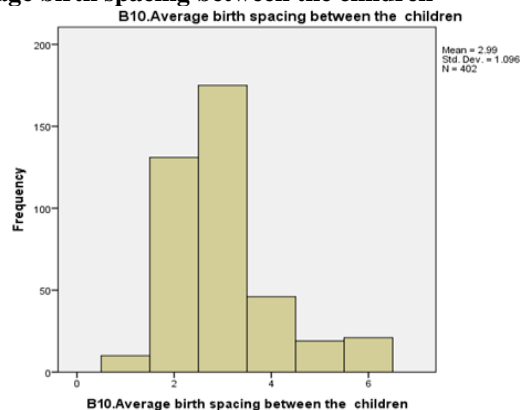


Figure 7: Birth spacing

The average birth spacing of most of the women was 3years having 43.5% and least number of women (2.5%) had the range of one year.

that breast milk only is the best for feeding a baby less than 6 months. Few mothers 22.4% knew the age at which an infant should be weaned. Among the respondents 44.8% visited the clinic either during pregnancy and or after delivery and only 52.0% among them were taught on exclusive breastfeeding by the health care personnel.

Maternal Knowledge on Breastfeeding

Majority of the mothers knew of transfer of immunity (50.0%) as a benefit of breastfeeding and only 35.1% said

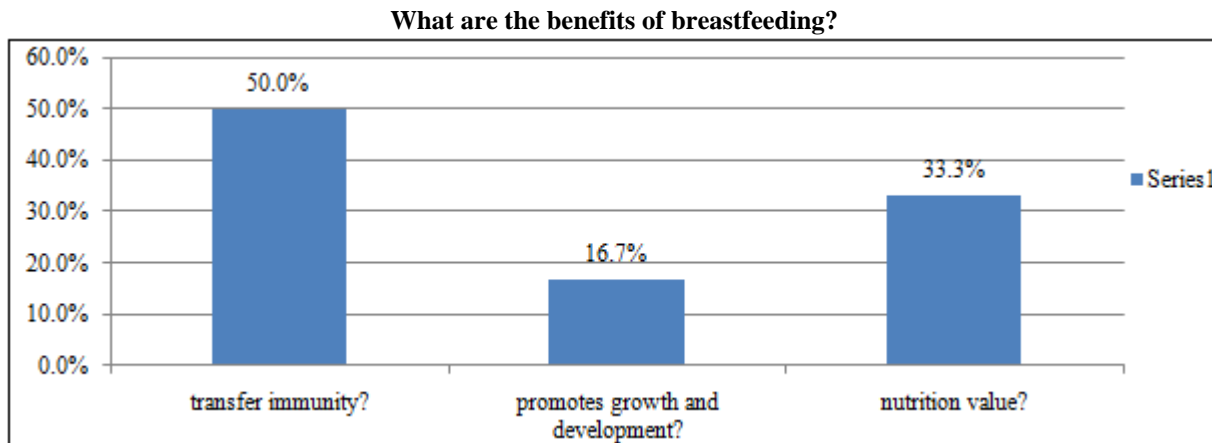


Figure 8: Benefits of breastfeeding N=402

Majority of the mothers knew of transfer of immunity (50.0%) as a benefit of breast feeding. 16.7% were aware that breastfeeding promotes growth and development and those who said it has nutrition value were 33.3%

What is the best way to feed a new born baby less than 6 months?

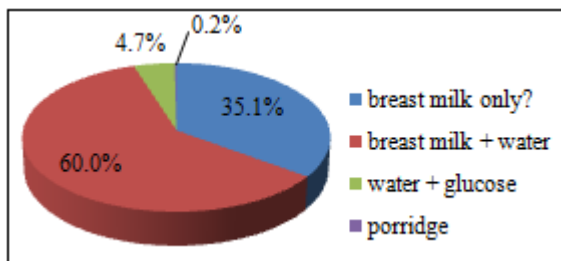


Figure 9: Best way to feed baby below 6 months

Among the respondents 35.1% said that breast milk only is the best for feeding a new born baby, 60.0% said that breast milk and water is the best to feed a new born baby while 4.5% advocated for breast milk, water and glucose but only 2.0% would feed their children on porridge.

At what age should an infant be introduced to other foods?

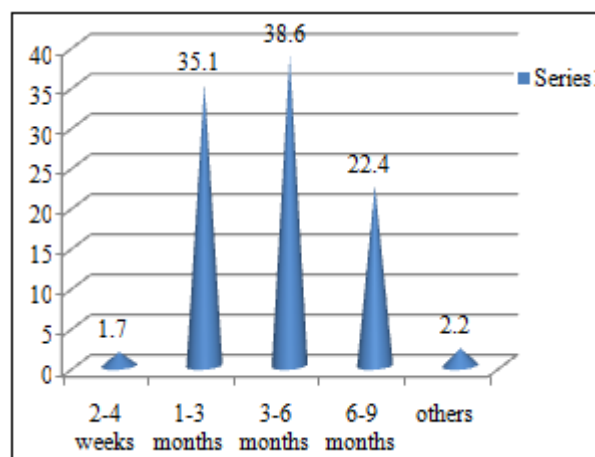


Figure 10: Age for introducing other foods

Most (38.6%)of the mothers believe that an infant be introduced to other foods at the age of 3-6 months, 35.1% say that it should be between 1-3weeks old, 22.4% say that it should be 6-9 months, 1.7% said 2-4 weeks and 2.2 % advocated for other ages.

During pregnancy and after delivery did you visit the health facility?

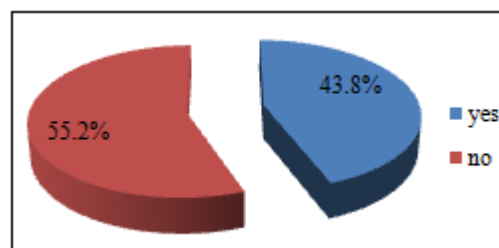


Figure 11: If ever visited a facility during pregnancy or after delivery

Among the respondents 44.8% visited the clinic either during pregnancy and or after delivery while 55.2 % did not.

If yes, did the health worker share with you on the information about breastfeeding?

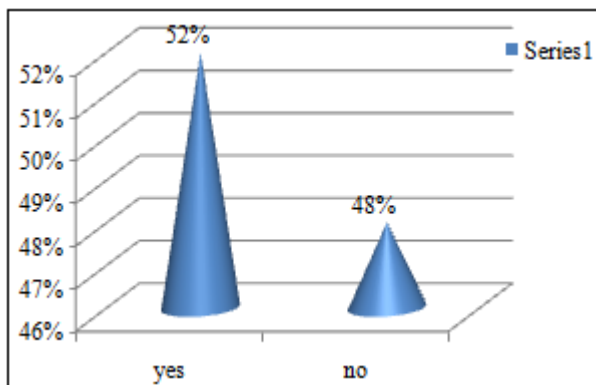


Figure 12: If ever taught exclusive breastfeeding during the visit N=180

Among those who visited the clinic, 52.0% were taught on exclusive breastfeeding while 48.0% were not.

4.3 Practices on Exclusive Breastfeeding

Among the respondents interviewed, (33.3%) were currently breastfeeding the index child and only 16.7% began their breastfeeding immediately after birth. Majority of the mothers did not give anything prior to breastfeeding (96.8%)but the few(3.2%) gave something before breastfeeding plain water was given by majority(87%) who gave something else before initiation of breastfeeding .Among the reasons that mothers gave for initiating other feeds before breastfeeding was lack of breast milk(58.8%) . most mothers(96.8%) gave colostrums to their babies while 3.2% did not. Majority of mothers breastfed on demand (98.6%).Most mothers (64.2%) also gave other fluids or foods during the period of exclusive breastfeeding to the index child, majority starting at 3-6 months (37%) and 1-3 months(35.3%).among the reasons that mothers gave for introducing other feeds during the period of exclusive breastfeeding include breast/nipple problems (33.3%),the mother missing or being absent at home (33.3%)

Table 4.8: Is the index child currently breastfeeding?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	134	33.3	33.3	33.3
	no	268	66.7	66.7	100.0
	Total	402	100.0	100.0	

Table 4: Current breastfeeding status of the index child

Among the respondents 33.3% were currently breastfeeding while 66.7% had stopped breastfeeding their babies .

When did you start breastfeeding the index child after birth

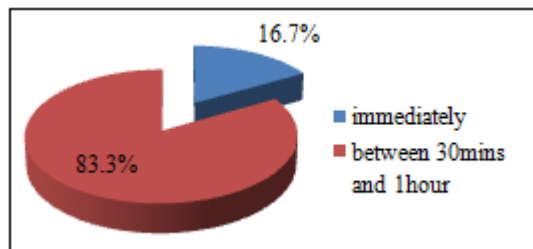


Figure 13: Onset of breastfeeding after birth

Among the mothers interviewed, 83.3% began breastfeeding their index child between 30 minutes to 1hour after birth but only 16.7% began breast feeding immediately after child birth.

Before you first breastfed this child, did you give anything else?

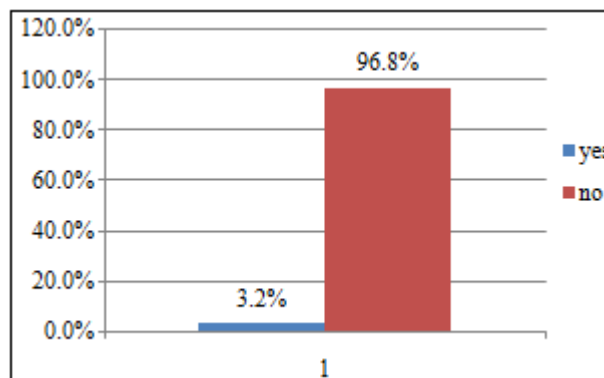


Figure 14: If anything was given before breastfeeding

Few mothers (3.2%) gave something else to their babies before breastfeeding while 96.8% did not.

If yes, what did you give?

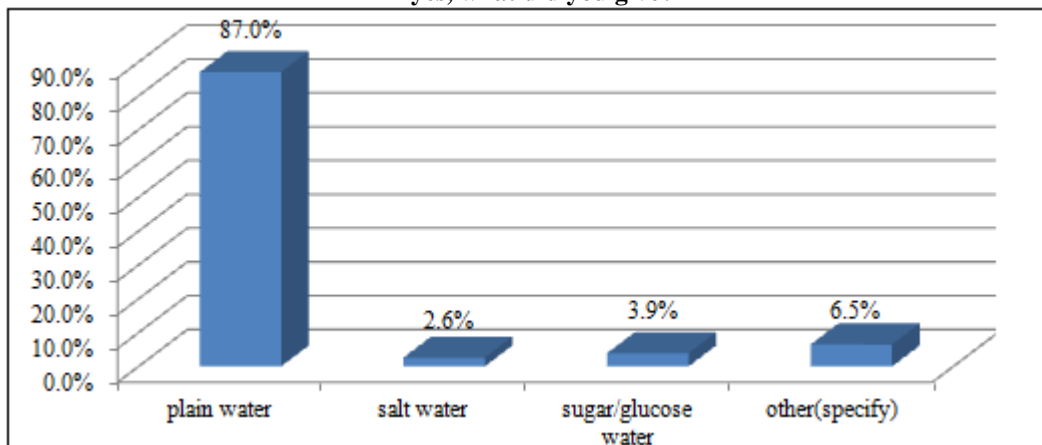


Figure 15: What mothers gave to their infants before breastfeeding, N= 13

Among those who gave something else before breastfeeding, 87.0% said they gave plain water, 2.6% gave salt water.

Those who gave sugar/glucose water were only 3.9% and 6.5% gave something else.

Why did you give other feeds before initiating breastfeeding?

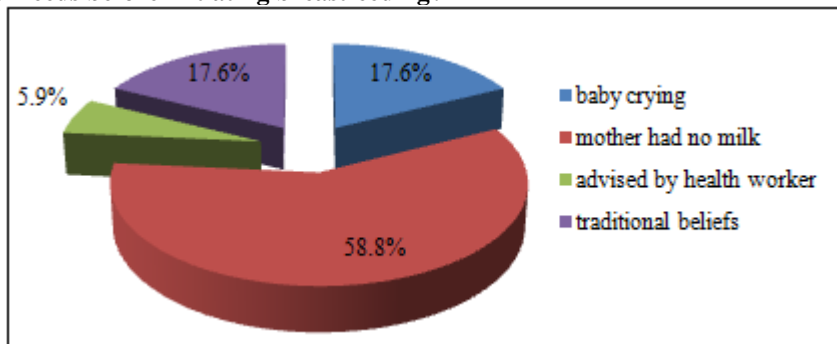


Figure 16: reason for giving other feeds before breastfeeding N=13

Among those who gave other feeds before initiating breastfeeding, 58.8% say that they had no breast milk, 17.6% gave because the child was crying, and 17.6% gave

because of traditional believes and 5.9% were advised by a health worker.

Was the child given colostrum (the first thick yellow milk)?

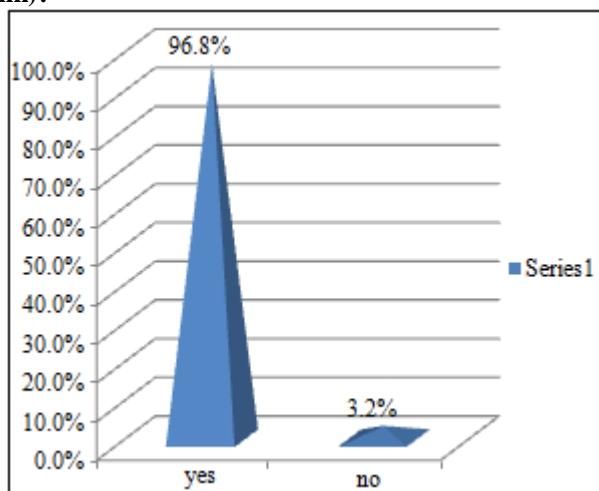


Figure 17: Colostrums given to babies N=402

Majority of the mothers (96.8%) gave colostrums to their babies while 3.2% did not.

When do you usually breastfeed /breastfed the index child?

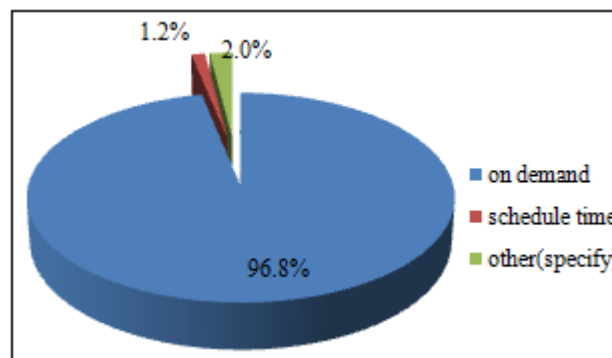


Figure 18: Breastfeeding frequencies N=402

Most of the respondents (96.8%) breastfed on demand where as 1.2% on schedule and 2.0% say otherwise

Did you ever give (name of index child) other foods/fluids) during breastfeeding?

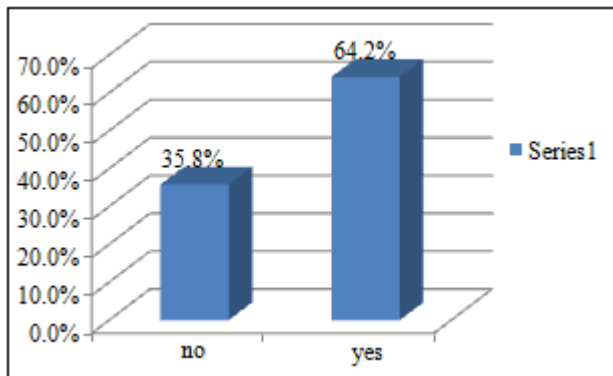


Figure 19: Giving foods/fluids during breastfeeding

Most mothers (64.2%) gave other foods/fluids to their children during the breastfeeding period, while 35.8% said they had not.

If yes, when did you start giving (name of index child) other foods/fluids?

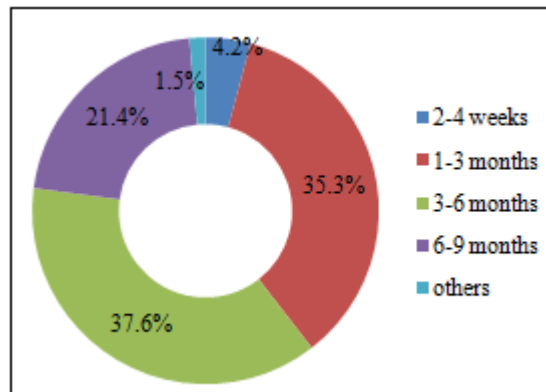


Figure 20: Age of introducing other feeds to the child

Among those who have ever given their children other foods, 35.3% began after 1-3 months, 37.6% began after 3-6 months, 21.4% began after 6-9 months, 4.2% began when the child was only 2-4 weeks old while 1.5% began at other ages.

Figure 4.18: Why did you start giving (name of index child) other foods/fluids (one or two responses)

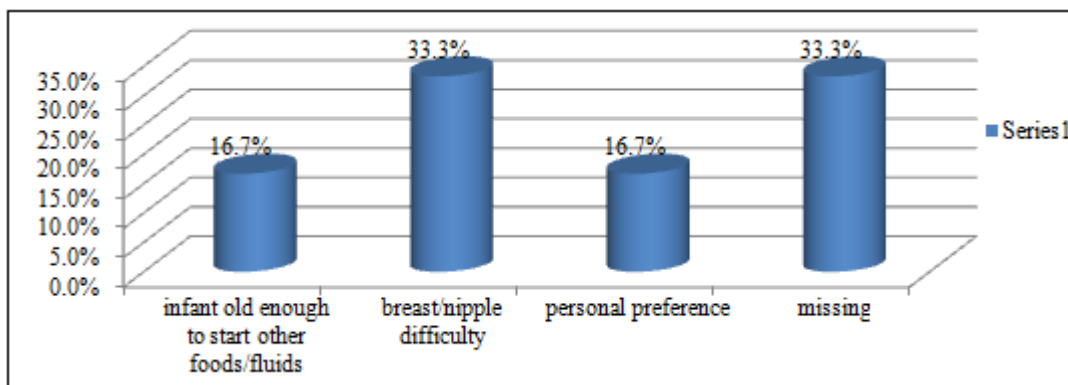


Figure 21: Reasons for giving other foods/fluid

Majority (33.3%) of those who gave their children other food say it was because of breast/nipple difficulty as well as mothers being absent at home, 16.7% because of the child being old enough and 16.7% said it was because of personal preferences.

is contrary to the findings of Andrawa et al (2016) where nearly two-thirds (63.9%) of the mothers surveyed were house wives. The high number of mothers with an occupation could be attributed to the fact that most mothers in this study were educated and had some entrepreneurship knowledge.

5. Discussion

Most of the mothers (76.9%) were below 30 years indicating the most fertile reproductive age group. This is in conformity to a previous study in Ethiopia (Tewodros et al 2009, Aniekan et al 2014). Of the mothers surveyed, majority (83.35%) attended formal education. This is contrary to a previous study done in Ethiopia (Tesfaye et al 2012) and Andrawa et al 2016), where some mothers had never attended formal school. The higher percentage of educated mothers could be attributed to them being young and the support from the Kenyan government to have free primary education and subsidized secondary education .Few mothers were housewives (16.7%) compared to 83% who had either casual, self employed or formal employment. This

Maternal knowledge

In this study, majority of the mothers knew of transfer of immunity as a benefit of breast feeding. They were also aware that breastfeeding promotes growth and development and it has nutritive value. Knowledge on the best way to feed a baby less than 6 months revealed that only (35.1%) knew that breast milk only is the best for feeding a baby. This result reveals a knowledge deficit on what entails exclusive breastfeeding and therefore necessitating more education and campaign awareness on exclusive breastfeeding in Kakamega County. Further comparison show that the percentage of mothers who believe that breast milk only is the best for feeding a baby less than 6 months is not proportional to that of mothers who introduced other foods at the age of six months. This only implies that mothers are aware of the importance and benefits of exclusive breastfeeding but do not practice it.

Mothers were also asked on the duration of exclusive breastfeeding or the age at which an infant should be introduced to other feeds. Most of the mothers (75.6%) believe that an infant should be introduced to other foods below the age of six months. Few mothers (22.4%) knew the age at which an infant should be weaned compared to a study done by Ampeire, (2008) in Uganda that revealed (73.8%) were knowledgeable about the duration of exclusive breastfeeding. The difference could be due this study being a community based compared to the previous study which was hospital based and therefore respondents had had an opportunity to interact with a health care personnel. A similar study in south India revealed a slightly higher percentage of women (38%) who knew the recommended duration of exclusive breastfeeding than in this study even though majority did not receive information on exclusive breastfeeding during ante-natal care, (Maheswari, et al 2010).

Among the respondents 44.8% visited the clinic either during pregnancy and or after delivery and only 52.0% among them were taught on exclusive breastfeeding by the health care personnel. This result is contrary to those of Adrawa and colleagues (2016) that revealed most women (95.8%) were taught by health workers from antenatal and postnatal visits. The result in this study reveals that most mothers did not attend antenatal and postnatal visits as recommended by WHO and the ministry of health in Kenya. They did not therefore benefit from teachings on exclusive breastfeeding. This also implies that there is need for community approach on education on exclusive breastfeeding as well as encouraging antenatal and postnatal visits among pregnant and postnatal mothers in the community. In this study not all mothers who visited the health facility were taught on exclusive breastfeeding. This reveals a gap that needs to be addressed so that mothers should not have missed opportunities when they visit the clinics and health education including exclusive breastfeeding to address individual needs of the mothers.

3. Maternal Practices on exclusive breastfeeding

Among the respondents interviewed (33.3%) were currently breastfeeding the index child. The low percentage could be attributed to the fact that mothers with children from 6 months to five years were included in the study hence

majority had stopped breastfeeding by then. Few mothers (16.7%) began their breastfeeding immediately after birth while majority (83.3%) initiated their breastfeeding between 30 minutes and one hour. This reveals a gap in practice since evidence based practice requires that mothers should initiate the breastfeeding immediately after birth to aid in the contraction of the uterus hence preventing postpartum hemorrhage. This result is similar to a study by Majority of the mothers did not give anything prior to breastfeeding (96.8%) but the few (3.2%) gave something before breastfeeding plain water was given by majority (87%) who gave something else before initiation of breastfeeding. This could be attributed to the fact that most mothers believe water should be given to cleanse the digestive system before breast milk is introduced. Among the reasons that mothers gave for initiating other feeds before breastfeeding, was lack of breast milk (58.8%). Most mothers (96.8%) gave colostrums to their babies while 3.2% did not. The few who did not give colostrum could be attributed to some cultural beliefs or lack of knowledge on the importance of colostrums. Cultural attitudes, beliefs and norms are important factors in the WHO's model of the determinants of infant and child feeding behavior as they are known to affect breastfeeding practices (Wanjohi et al. 2016). Other researchers have identified detrimental cultural beliefs (insufficient milk and "bad" colostrum) as a hindrance to the practice of exclusive breastfeeding Ogada 2014.

Majority of mothers breastfed on demand (98.6%). Most mothers (64.2%) also gave other fluids or foods during the period of exclusive breastfeeding to the index child, majority starting at 3-6 months (37%) and 1-3 months (35.3%). Among the reasons that mothers gave for introducing other feeds during the period of exclusive breastfeeding include breast/nipple problems (33.3%), the mother missing or being absent at home (33.3%) The findings of this study reveal that only (21.4%) of mothers interviewed gave fluids/foods from the age of 6 months onwards hence exclusively breastfed. The practice in this region was far below the WHO recommendation of 90% This result is slightly lower than in Ghana where 27.7% of mothers were practicing exclusive breastfeeding (Ruth et al. 2018), the higher percentage in the later study could be attributed to the fact that mothers interviewed were still attending maternal child health services and therefore could not have recall bias. The results in this study demonstrate a wide gap between the desired and the actual practice of EBF in the study area. The low practices of EBF in this area could be due to low knowledge of EBF, since the study revealed that most mothers did not get information regarding EBF from their health providers and also majority did not attend antenatal and postnatal services where information on exclusive breastfeeding is disseminated. Contrary to the results of this study, a high EBF was noted in some other part of Nigeria where the practice of EBF rate was 75.6% among nursing mothers (Oche et al. 2011). It was asserted that the high prevalence of EBF in that study was because the mothers were mostly workers and took their children with them to the place of work, and this made easier the fostering of EBF practice among mothers. This assertion was also noted by Gladzah, with non-working mothers who were constantly available to breast feed their babies (Iliyasov et al. 2005)

6. Study Limitation

This study was mainly a cross-sectional study design. Also, the study participants may present recall bias since children up to 5 years were included. A more comprehensive analysis (cross tabulation) between exclusive breastfeeding and sociodemographic factors could have brought out factors that influenced exclusive breastfeeding at Shirere sublocation, but this was not measured in this study.

7. Conclusions

- The socio-demographic characteristics reveal that most mothers interviewed were young had attained secondary education and were married.
- Other than knowing the importance of exclusive breastfeeding, majority of mothers in Shirere sub location were deficient in knowledge on the best feed to give to infants below 6 months and also on the proper age of weaning their infants.
- Most mothers do not practice exclusive breast feeding during the first six months citing the reason for being absent at home or having breast/nipple complications.
- Health care workers do not always routinely educate mothers on exclusive breastfeeding and or breast and nipple care that facilitates exclusive breastfeeding during routine antenatal

8. Recommendations

- The Ministry of Health at national and county levels, to promote information on exclusive breast feeding and its importance to babies and address options that promote exclusive breastfeeding such as breast/nipple care and expressing breast milk for use when mother is away
- Training of Healthcare providers and community health workers on Infant and Young Child Nutrition (IYCN)
- Kakamega County referral Hospital MCH department should adequately address the issue of exclusive breastfeeding during routine visits and have outreach programmes for their catchment population which includes Shirere with focus on health information about exclusive breastfeeding.

N/B. The author declares no competing interest and this study was not funded by any organization.

References

- [1] American Academy of Pediatrics. (2012). *Policy statement: Breastfeeding and the use of human milk*. Retrieved from <http://pediatrics.aappublications.org/content/early/2012/02/22/peds.2011-3552>
- [2] Carlisle, S. (2010). What research does and doesn't say about breastfeeding: A critical review. *Early Child Development and Care*, 180, 703-718.
- [3] Condon, L., Rhodes, C., Warren, S., Withall, J., & Tapp, A. (2012). 'But is it a normal thing?'
- [4] Teenage mothers' experiences of breastfeeding promotion and support. *Health Education Journal*, 72, 156-162.
- [5] Wambach, K., Aaronson, L., Breedlove, G., Williams-Domain, E., Rojjanasrirat, W., & Yeh, H. (2011). A randomized controlled trial of breastfeeding support and education for adolescent mothers. *Western Journal of Nursing Research*, 33, 486-505.
- [6] Smetana, J., Campione-Barr, N., & Metzger, A. (2010). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology*, 57, 255-84.
- [7] Nesbitt, S., Campbell, K., Jack, S., Robinson, H., Piehl, K., & Bogdan, J. (2012). Canadian adolescent mothers' perceptions of influences on breastfeeding decisions: A qualitative descriptive study. *Biomed Central Pregnancy and Childbirth*, 12(149), 1-14.
- [8] Noble-Carr, D., & Bell, C. (2012). Exposed: Young mothers and breastfeeding. *Breast feeding Review*, 20(3), 27-43.
- [9] Brown, A., Raynor, P., & Lee, M. (2012). Young mothers who choose to breast feed: The importance of being a part of a supportive community. *Midwifery*, 27, 53-59.
- [10] World Health Organization. Learning from large-scale community-based program to improve breastfeeding practices. 2013.
- [11] World Health Organization. Mortality and burden of disease attributable to selected major risks. 2010 b.
- [12] Black R, Allen L, et al. Maternal and Child Under nutrition global and regional exposures and Study Group: Health consequences. *Lancet*. 2010;371(9608):243-60.
- [13] CSA. Ethiopian DHS. Addis Ababa; Ethiopia 2011.
- [14] UNICEF. Tracking Progress On child And Maternal Nutrition: A survival and Development priority. 2011.
- [15] Ethiopia Federal Ministry of Health. National Strategy for child survival Addis Ababa 2013
- [16] Aslam S, Sultan M, Akram F. Exclusive breast feeding; Duration at Norther Areas of Pakistan a hospital based study. *Professional Med J* 2010;17(2):286-90.
- [17] Sapana P, Ameya H, et al. Prevalence of Exclusive Breast Feeding And Its Correlates In An Urban Slum In Western India. *IeJSME* 2013;3(2):14-8.
- [18] Kok, Leong, Tan. Factors associated with exclusive breastfeeding among infants under six months of age in peninsular Malaysia. *International Breastfeeding Journal* 2011;6(2).
- [19] Ghwass A, Ahmed D. Prevalence and Predictors of 6-Month Exclusive Breastfeeding in a Rural Area in Egypt *Breastfeeding medicine* 2011;6(4):191-6.
- [20] Kenya Demographic Health Survey (2008-09), Kenya National Bureau of Statistics (KNBS) and ICF Macro. Calverton, Maryland: KNBS and ICF Macro.
- [21] Arvelo, W., Kim, A., Creek, T., Legwaila, K., Puhr, N., Johnston, S. Bowen, A. (2010). Case-control study to determine risk factors for diarrhea among children during a large outbreak in a country with a high prevalence of HIV infection. *International Journal of Infectious Diseases*, 14, 1002-1007. doi:10.1016/j.ijid.2010.06.014
- [22] Murtagh, L., & Moulton, A. D. (2011). Working mothers, breastfeeding, and the law. *American Journal of Public Health*, 101(2), 217-223. doi:10.2105/ajph.2009.185280

- [23] UNICEF (2009).HIV and infant feeding.Retrieved February 2, 2011, from UNICEF (2010). Statistics: Nutrition. Retrieved February 2, 2011, from World Health Organization (2011).
- [24] Tewodros A, Jemal H, Dereje H. Determinants of exclusive breastfeeding practices in Ethiopia. *Ethiop J Health Dev.* 2009;23:12–18. [Google Scholar]
- [25] Aniekan MA, Etiobong, Etukumana A, Nyong Eno, Ukeme EE. Knowledge and practice of exclusive breastfeeding among ante-natal attendees in Uyo, Southern Nigeria. *Gaziantep Med J.* 2014:130–135.[Google Scholar]
- [26] Tesfaye S, Tefera B, Mulusew G, Kebede D, Amare D, Sibhatu B. Factors associated with exclusive breastfeeding practices among mothers in Goba district, southeast Ethiopia. *International Breastfeeding Journal.* 2012;7:17. <http://www.internationalbreastfeedingjournal.com/content/7/1/17>. [PMC free article][PubMed] [Google Scholar]
- [27] Maheswari E, Vishnu BB, Ahamed Mohamed Asif Padiyath. Knowledge attitude and practice of breastfeeding among post-natal mothers. *Curr Pediatr Res.* 2010;14:119–124. [Google Scholar]
- [28] Agu U, Agu MC. Knowledge and practice of exclusive breastfeeding among mothers in a rural population in south eastern Nigeria. *Tropical Journal of Medical Research.* 2011;15(2) [Google Scholar]
- [29] Zenebu BB, Belayneh KG, Alayou G, Ahimed A, Bereketchinasho Abreham A, Amanuel Y, Keno T. Knowledge and Practice of mothers towards exclusive breastfeeding and its associated factors in Ambo Woreda West Shoa Zone Oromia region, Ethiopia. *International journal of medical sciences and Pharmaresearches.* 2015;1(1) [Google Scholar]
- [30] Oche MO, Umar AS, Ahmed H. Knowledge and practice of exclusive breastfeeding in Kware, Nigeria. *Afr Health Sci.* 2011;11:518–523. [PMC free article] [PubMed] [Google Scholar]
- [31] Ampeire IP. Perception and knowledge on exclusive breastfeeding among women attending ante-natal and post-natal clinics. A study from Mbarara hospital–Uganda. *Dar Es Salaam Medical Student’s Journal.* 2008;16:29. [Google Scholar]
- [32] Oyang W. Prevalence and factors affecting exclusive breastfeeding among mother-infant pairs in Kawempe Division, Kampala District. 2008 URI: Makerere University Institutional Repository collection. home page. <http://hdl.handle.net/10570/218>.
- [33] Arts M, Geelhoed D, De Schacht C, et al. Knowledge, beliefs, and practices regarding exclusive breastfeeding of infants younger than 6 months in Mozambique: a qualitative study. *J Hum Lact.* 2011;27:25–32. [PubMed] [Google Scholar]
- [34] Preliminary report. Uganda Bureaus of Statistics (UBOS); Kampala Uganda: 2011. Uganda Health Demographic Survey 2011. Internet: <http://www.ubos.org>. [Google Scholar]
- [35] A.P. Adrawa, D. Opi, E. Candia, E. Vukoni, I. Kimera, I. Sule, G. Adokorach, T.O. Aliku, and E. Ovuga assessment of the knowledge and practices of exclusive breastfeeding amongst the breastfeeding mothers in adjumani district, west Nile nhipa Author Manuscripts. 2016 Nov; 93(11)576
- [36] Ruth Nimota Nukpezah, Samuel Victor Nuvor & Jerry Ninnoni Knowledge and practice of exclusive breastfeeding among mothers in the tamale metropolis of Ghana *Reproductive Health* volume 15, Article number: 140 (2018) |
- [37] World Health Organization. Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals; 2009.
- [38] Mogre V, Dery M, Gaa PK. Knowledge, attitudes and determinants of exclusive breastfeeding practice among Ghanaian rural lactating mothers. *Int Breastfeed J.* 2016;11(1)
- [39] Pérez-Escamilla R. Breastfeeding and the nutritional transition in the Latin American and Caribbean region: a success story? *Cadernos de saude publica.* 2003;19(1):S119–27
- [40] Leshi O, Samuel FO, Ajakaye OM. Breastfeeding knowledge, attitude and intention among female young adults in Ibadan, Nigeria. *Open Journal of Nursing.* 2016;6(1):11–23.
- [41] Oche M, Umar A, Ahmed H. Knowledge and practice of exclusive breastfeeding in Kware, Nigeria. *Afr Health Sci.* 2011;11(3):518–52.
- [42] Iliyasu Z, Kabir M, Abubakar IS, Galadanci NA. Current knowledge and practice of exclusive breastfeeding among mothers in Gwale local government area of Kano state. *Nigerian Medical Practitioner.* 2005;48(2):50–5.
- [43] Wanjohi M, Griffiths P, Wekesah F, Muriuki P, Muhia N, Musoke RN, et al. Sociocultural factors influencing breastfeeding practices in two slums in Nairobi, Kenya. *Int Breastfeed J.* 2016;12:5.
- [44] Ogada IA. Effectiveness of couple counselling versus maternal counselling in promoting exclusive breast feeding: a randomised controlled trial in Nyando District, Kenya [Internet]. Kenyatta University; 2014. Available from: <http://ir-library.ku.ac.ke/handle/123456789/11910> of couple counselling versus maternal counselling in promoting exclusive breast feeding a randomised controlled trial in Nyando District, Kenya