

## Knowledge, Attitude and Practice of Exclusive Breastfeeding among Multigravid Women Attending Antenatal Clinic in Aminu Kano Teaching Hospital

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### Abstract

**Background:** Exclusive breastfeeding provides nutritional, immunologic, developmental and psychological advantages with regard to general health, growth and development of an infant and has dramatically reduced infant deaths in developing countries by reducing diarrhoea and infectious diseases as well reduce HIV transmission from mother to child compared to mix feeding.

**Aim:** The aim of the study was to assess the knowledge, attitude and practice of exclusive breastfeeding among multigravid women attending ante natal clinic in Aminu Kano teaching hospital.

**Method:** A cross-section descriptive survey design was used, 250 respondents were selected using cluster sampling technique, the data were collected using a questionnaire and the data was analysed using descriptive statistics of frequency and percentages.

**Result:** The result of this study showed that 68.4% knew the correct definition and duration of exclusive breastfeeding, 47.2% exclusively breastfeeds for the first six (6) months of life, 92% gives colostrum to their babies because they believed it provides nutrition and protection to their babies. The result also showed that there is a positive attitude of mothers toward exclusive breastfeeding as 69.6% of them agreed that breast milk alone is sufficient to the baby during the first six (6) months of life as well as believed that EBF has benefits to both the infants and the mother.

**Conclusion:** It was concluded that there was high level of knowledge on exclusive breastfeeding among the respondents, almost half of the respondents practiced exclusive breastfeeding as recommended and relatively all the respondents have positive attitude toward exclusive breastfeeding.

**Recommendation:** Exclusive breastfeeding counselling during ante natal clinic should be more elaborative with emphasis on its advantages. Women should be taught on how to breastfeed.

**Keywords:** Knowledge, attitude, practice, exclusive breastfeeding, and multigravid women

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## I. Introduction

### Background

Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breasts (i.e. via lactation) rather than using infant formula from a baby bottle or other container (Await et al., 2009). Breastfeeding is the ideal method suited for the physiological and psychological needs of an infant (Subbiah, 2003). Under modern health care, human breast milk is considered the healthiest form of milk for babies (Picciano, 2001). Breastfeeding has been accepted as the most vital intervention for reducing infant mortality and ensuring optimal growth and development of children (Gupta et al., 2007). The beneficial effects of breastfeeding in the prevention of morbidity and mortality from diarrhoea in infants have been documented (Gupta et al., 1990). Scientific researches, such as 2007 review for the World Health Organization (WHO), have found numerous benefits of breastfeeding for the infant (Horta et al., 2007).

American Academy of Paediatrics (AAP), reported that breast feeding provides advantages with regard to general health, growth and development. It documents diverse and compelling advantages for infants, mothers, families, and society from breastfeeding and use of human milk for infant feeding. These advantages include health, nutritional, immunologic, developmental, psychological, social, economic, and environmental benefits (Gartner, et al., 2005). During breastfeeding, approximately 0.25-0.5 grams per day of secretory immuno-globulin (IgA antibodies) pass to the baby via the milk (Hanson & Soderstrom, 1981). Breastfeeding may decrease the risk of cardiovascular disease in later life, as indicated by lower cholesterol and C-reactive protein levels in adult women who had been breastfed as infants (Williams, Williams & Poulton, 2006).

Breastfeeding promotes health for both mother and infant and helps to prevent disease. Longer breastfeeding has also been associated with better mental health through childhood and into adolescence (Oddy et al., 2010). Breastfeeding appears to reduce the risk of extreme obesity in children (Armstrong & Reilly, 2002).

Due to many health benefits of breastfeeding to mothers and children, governments of many nations have set goals for breastfeeding practices and rates (Vogel et al., 1999).

Exclusive breastfeeding (EBF) means giving infants only breast milk with no addition of other foods or drinks, including water (WHO/UNICEF, 2003). EBF has dramatically reduced infant deaths in developing countries by reducing diarrhea and infectious diseases. It has also been shown to reduce HIV transmission from mother to child, compared to mix feeding (Coutsoudis et al., 2001).

National and international guidelines recommend that all infants be breastfed exclusively for the first six months of life. Breastfeeding may continue with the addition of appropriate foods, for two years or more. WHO (2003) recommends EBF for the first six months of life, after which infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues up to two years of age or beyond. AAP states that breast feeding also has economic health benefits because breastfeeding results in reduced health care costs. The significantly lower incidence of illness in the breastfed infant also allows the parents more time for attention to siblings and other family duties and reduces parental absence from work and lost income.

The WHO recommends that national authorities in each country decide which infant feeding practice should be promoted and supported by their maternal and child health services to best avoid HIV infection transmission from mother to child. Breastfeeding with HIV guidelines established by the WHO suggest that HIV-infected mothers (particularly those in resource-poor countries) practice EBF only, rather than mixed breastfeeding practices that involve other dietary supplements or fluids (Moland et al., 2010). However, a recent study conducted by researchers from the University Of North Carolina School Of Medicine suggests that women infected with HIV can, in fact, breastfeed without transmitting the virus to their children, because components in breast milk are understood as able to kill the virus (Wahl et al., 2012).

According to the centre for disease control and prevention (CDC), one of the most highly effective preventive measures a mother can take to protect the health of her infant is to breastfeed. The success rate among mothers who want to breastfeed can be greatly improved through active support from their families, friends, communities, clinicians, health care leaders, employers, and policymakers. Given the importance of breastfeeding for the health and well-being of mothers and children, it is critical that we take action across the country to support breastfeeding. Though nationwide efforts to promote EBF started in Nigeria since 1992, data on this type of infant feeding are however, generally scarce (Lawoyin et al., 2001).

### **Statement of problem**

Experts agree that breastfeeding is beneficial and have concerns about the effects of artificial formulas. Artificial feeding is associated with more deaths from diarrhea in infants in both developing and developed countries (Horton et al., 1996). Breastfeeding declined significantly from 1900 to 1960, due to improved sanitation, nutritional technologies, and increasingly negative social attitudes towards the practice. However, from the 1960s onwards, breastfeeding experienced a revival which continues to the 2000s, though some negative attitudes towards the practice still remain (Riordan and Countryman, 1980). EBF for the first six months of life is estimated to lower infant death by 13% (Jones et al., 2003). Other dangers associated with not breastfeeding as recommended include high infant death rates caused by lowered protection against harmful bacteria and other gastrointestinal infections and slow recovery from illnesses (WHO, 2001b).

Infant feeding practices account, to a large extent, for the high rates of malnutrition among children in developing countries (WHO, 2007). In Africa, majority of the mothers fail to practice EBF as recommended (WHO 2006b). This is caused by factors such as lack of self-security, breast soreness, poor infant positioning, mothers' perception of inadequate milk supply and lack of necessary support and information from health care provider (WHO, 2001b). There are cultural, social and economic barriers to EBF including pre-lacteal feeding, giving drinking water and herbal teas (Shirima, Gebre-Madhin and Greiner, 2001).

In Nigeria, it has been shown by the Multiple Indicator Cluster Survey (MICS) data and National Demographic Health Survey (NDHS, 2008), that only 13.0% of nursing mothers practiced EBF, (MICS in Amosu et al., 2010), this is a decline from 17% reported in NDHS (2004). Poor EBF rates might have resulted from the absence of knowledge of breastfeeding during antenatal nutrition education and infants that are subjected to poor breastfeeding practices may easily become malnourished with the tendency of contributing to the increasing rate of infant mortality (Amosu et al., 2010). Diarrhoea is one of the problems associated with the use of feeding bottles while growth retardation in babies has been found to coincide with the introduction of milk substitutes (Sumati&Mudambi, 1981).

It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children younger than 5 years of age (WHO, 2009). Some researchers have proposed that lack of suitable facilities outside of the home, inconvenience, conflicts at work, family pressure and ignorance adversely affect the willingness of women to practise EBF (Ogbonna et al., 2000; Forbes et al., 2003). Another research have shown that various factors such as education, social class, culture, locale, nature of work, and health status of both the nursing mothers and their

infants, influence nursing mothers' decision to breastfeed their children (Newton & Newton, in Adeyinka et al., 2008).

The Nigerian government established the Baby-Friendly Hospital Initiative (BFHI) in some states within the country with the aim of providing mothers and their infants a supportive environment for breastfeeding and to promote appropriate breastfeeding practices, thus helping to reduce infant morbidity and mortality rates. Despite these efforts, child and infant mortality continue to be major health issues affecting Nigeria. The infant mortality rate for the most recent five-year period (1999-2003) is about 100 deaths per 1,000 live births.

EBF rates in Nigeria continue to fall well below the WHO/UNICEF recommendation of 90% EBF in children less than 6 months (WHO, 2009). The key to successful breastfeeding is Information, Education and Communication (IEC) strategies aimed at behaviour change (Ekambaram et al., 2010). Part of the efforts to promote improved breastfeeding practices focused on hospital norms and services, legislation institutional policies, health workers training, mass media campaigns, peer counselling and educating mother - to - mother support, and a combination of these strategies (Green, in Adeyinka et al., 2008). Meanwhile, lots of these efforts have been of limited size and scope (Quinn et al., 2005).

Specifically, Agency for International Development (USAID) in 1996, issued a grant to the Academy for International Development to design and implement a 10- year program, known as the LINKAGES project, to improve breastfeeding practices rapidly and at scale. Unluckily, this has not yielded an encouraging result. This is because in Nigeria, the national rates for early initiation of breastfeeding were low. As it has been said that optimum breastfeeding ensures the safety, optimum growth, survival of the human infants; that, duration of the breastfeeding may also determine the strength of mother - child bond and attachment, yet EBF is not being in full practice by Nigerian nursing mothers.

Therefore, there is need for improving infant breastfeeding practices among nursing mothers. A more detailed understanding of the knowledge, attitude and practice of mothers toward EBF in Nigeria is needed to develop effective interventions to improve the rates of EBF and thus reduce infant mortality.

### **Aims and significance of study**

#### **General objective**

The main objective of the study is to find out the knowledge, attitude and practice of exclusive breastfeeding among pregnant women attending antenatal clinic in Aminu Kano Teaching Hospital.

#### **Specific objectives:**

- I. To assess the knowledge of pregnant women on exclusive breastfeeding.
- II. To assess the attitudes of pregnant women toward exclusive breastfeeding.
- III. To ascertain the pattern of exclusive breastfeeding practice among pregnant women.
- IV. To identify the factors that influences exclusive breastfeeding.

#### **Significance of the study**

It is hoped that at the end of the study, the result will:

- I. Increase the knowledge of pregnant women on exclusive breastfeeding
- II. Lead to development of positive attitude among pregnant women toward exclusive breastfeeding.
- III. Support optimal mechanisms for improving fathers' and other familial attitudes regarding exclusive breastfeeding.
- IV. Help reduce public misperceptions on women's choices to exclusively breastfeed.
- V. Provide more scientific evidence to health care givers in advocating the practice of exclusive breastfeeding.
- VI. Support effective strategies for improving public awareness regarding the benefits of exclusive breastfeeding.
- VII. Increase the level of knowledge on the part of nurses on how to solve breastfeeding problems and breastfeeding in special situation.
- VIII. Offer some specific measures to the government on how to enhance and sustain exclusive breastfeeding practice so as to promote child health and reduce child morbidity and mortality as well.
- IX. Promote further studies on exclusive breastfeeding.
- X. Provide clinical data on exclusive breastfeeding and enrich the existing body of knowledge.
- XI. Help in the realization of Millennium Development Goal number four ("to reduce infant mortality").

## **II. Review of Related Literatures**

### **Introduction**

This chapter contains review of current and past research findings that are relevant to the phenomenon under study.

### **The Concept of Exclusive Breastfeeding**

Breast milk is the only food fully adapted to the physiology of human infants (WHO, 2003) and is considered the best food for the infant because it contains all the nutrients in the correct proportions. It has the correct temperature, is easily digested and assimilated, readily produced and available (Frazer & Cooper, 2003). AAP defined exclusive breastfeeding as an infant's consumption of human milk with no supplementation of any type (no water, no juice, no non-human milk, and no foods) except for vitamins, minerals, and medications. EBF for the first six months of life is estimated to lower infant death by 13% (Jones et al., 2003). Lack or inadequate breastfeeding significantly increases risk for a large number of acute and chronic diseases including lower respiratory infection, ear infections, bacteremia, bacterial meningitis, botulism, urinary tract infection, and necrotizing enterocolitis (Lucas & Cole, 1990) and AAP stated that there are a number of studies that show a possible protective effect of breast milk feeding against sudden infant death syndrome, insulin-dependent diabetes mellitus, Crohn's disease, ulcerative colitis, lymphoma, allergic diseases, digestive diseases, and a possible enhancement of cognitive development (AAP, 2005).

The 54<sup>th</sup> world health assembly, which met in Geneva in May 2001, affirmed the importance of EBF for the first six months of life.

The new resolution (agenda item 13.1, infant and young child nutrition, A54/45 in para. 2(4).) urged member states to:

*“Support exclusive breastfeeding for six months as a global public recommendation taking into account the findings of the WHO Expert Technical Consultation on optimal duration of exclusive breastfeeding and to provide safe and appropriate complementary foods, with continued breastfeeding for up to two years or beyond...”* (Baby Milk Action, 2001)

It has been known for some time that exclusive breastfed babies who consume enough breast milk to satisfy their energy needs will easily meet their fluid requirement, even in hot dry climates (Ashraf et al., 1993, Sachve et al., 1991). EBF is extremely important in developing countries where limited access to clean water increases the risk for diarrheal diseases if replacement feeding is used. Other factors which render EBF very important in developing countries include high rate of HIV, poverty and food insecurity as in lack of enough nutritious foods for children and mothers (WHO, 2000a).

WHO recommends EBF for first six months followed by introduction of complementary food thereafter and continued breastfeeding for up to two years and beyond (WHO/UNICEF, 2003). Compliance with this recommendation has important child health and nutritious benefits in developing countries due to meaningful protection that breastfeeding provides to infants against diarrheal diseases and pneumonia. In many developing countries clean and safe water, nutritious first foods are scarce therefore complementary feeding given are usually nutritionally inadequate and contaminated which increase the risk of gastro-intestinal infection and growth faltering (Black, Moris and Bryce, 2003).

### **Theoretical Framework**

Exclusive breastfeeding is regarded as imperative for infants' survival. Indeed, of the 6.9 million under five children who were reported dead globally in 2011, an estimated 1 million lives could have been saved by simple and accessible practices such as exclusive breastfeeding (WHO, 2012). Many studies have revealed the high benefit of EBF to both mother and child, documenting that EBF for a period of 6 months significantly reduces transmission, provides the infant with a greater chance of survival in the first year of life, and helps the mother to recover from the negative health effects of birth much more quickly (Stein and Kuhn, 2009).

### **Exclusive Breastfeeding in Developed Countries**

Bernaix (2000) carried out a study in Canada on 50 maternal newborn nurses and 136 breastfeeding mothers to identify the characteristics of nurses and external factors that influenced their ability to provide effective breastfeeding support to mothers and their infants. The study suggested that nurses' intentions during the immediate in-hospital post-partum stay are best predicted by nurses' attitudes and social pressures. Furthermore, the actual supportive behaviour towards breastfeeding mothers was influenced by these same attitudes; the best predictor of supportive behaviour was nurses' knowledge of breastfeeding.

The study conducted by Labbok and Taylor (2008) to determine the achievement of exclusive breastfeeding in the United States: Findings and Recommendations, reported that, among children born in 2004 whose caregivers were interviewed in 2006, nearly 74% were breastfed, however, only 30.5% were exclusively breastfed through three months and 11.3% were exclusively breastfed through six months of age. Only ten states met one or both of the Healthy People 2010 objectives for exclusive breastfeeding. Rates vary by marital status and age, with married women exclusively breastfeeding to six months twice as frequently as unmarried women

(13% v. 6%). Rates of exclusive breastfeeding to six months increase as maternal age increases: from about 6% of mothers under 20 years of age to nearly 14% among mothers older than 30. Rates also vary by geographical location, suggesting social influences on exclusive breastfeeding practices. Rates are lowest in the South eastern region of the country and in rural areas in general.

While in another study conducted in the same country among three categories of women; women who were employed full time, who work part time and who were not employed outside home. The study found out that in the hospital, women who work part time had a significantly higher rate of breastfeeding (68%) than those who were employed full time (65%) or who were not employed (64.8%). The study also showed that working full time had a negative effect on breastfeeding duration. By six months after delivery, 26.1% of mothers employed full time, 36.6% of mothers working part time and 35.0% of non-working mothers breastfed their infants (Ryan et al., 2006).

A 2003 study conducted by Dykes, Morm, Burt and Edward in the North West England, evaluated the experiences and support needs of adolescent mothers who had commenced breastfeeding. The study conducted in-depth focus groups as well as interview to elicit the support needs identified with regard to breastfeeding. The study identified five themes of experiences and five themes of support needs were found. The five themes of breastfeeding experiences included feeling watched and judged, lacking confidence, tiredness, discomfort, and sharing accountability. The support needs themes included emotional support, esteem support, instrumental support, informational support and network support. Of these, esteem support was crucial to the adolescent in enhancing their feeling of self-worth, ability and being valued as both a mother and in relation to breastfeeding. The adolescents also valued instrumental support and the nurses' pro-practical support with breastfeeding, particularly with attaching their baby effectively to their breast, but they wanted to be shown how to do it. The desire for praise and encouragement from significant others, and health professionals was particularly strong in this study and was a key element in self-efficacy building, and concluded that when encouragement was combined with provision of realistic, useful and accurate information, the adolescent perceived that encounters were supportive of breastfeeding.

### **Exclusive Breastfeeding in Developing Countries**

In recognition of the essential role of exclusive breastfeeding, a lot of effort has gone into scaling up the rates in developing countries where incidence of child malnutrition and mortality is still high. Yet, successes in increasing the levels of EBF have rather been modest. Breastfeeding practices and attitudes have been shown to be influenced by demographic, biophysical, social, cultural and psychological factors (Dennis, 2002; Thulier& Mercer, 2009).

The study conducted by Khamnian et al., (2013) on exclusive breastfeeding and factors affecting knowledge, attitude and practice of mothers in rural and urban regions of East Azerbaijan, Iran, 750 breastfeeding mothers participated in the study with mean age of 23.5 and 27.8 years in rural and urban health area, respectively. The study showed that, 74% of the participant mothers were aware that breastfeeding did not produce weaknesses; while 26% thought that it did. While 63% of the mothers thought bottle feeding was acceptable during the first six months of life, 54% of the mothers were aware of the advantages of breastfeeding and disadvantages of bottle feeding. There were higher levels of awareness of the concept of positive feedback of lactation amongst mothers in the urban region as compared to the rural area. Also it was obtained that EBF was lower in employed mothers and it demonstrated the need to educate mothers to continue exclusive breastfeeding despite being employed with external duties at workplace.

Similarly, in a study conducted by Ekambaram et al., (2009) in India, total of 100 postnatal mothers were included in the study with age ranges from 18 to 35 (average age of 26 years) and 70% of the women between age group of 31-35 years were graduates. The study showed that, although, 92% of the mothers knew the recommendation of initiating breastfeeding within one hour, only 36% had actually done it. While 38% of the mothers knew that exclusive breastfeeding should be given for six months, only 56% of the mothers knew that colostrum needs to be given and about 38% of the mothers said that they would not breastfeed their child if the child has diarrhea. The study also showed positive association between breastfeeding and higher maternal age and educational status. It was also found that women who had antenatal care from tertiary care centers and from private practitioners had better breastfeeding scores than those who had availed care from primary health center or health care worker with only 48% of the women who had received any advice on breastfeeding during antenatal period and only 17% from a healthcare worker and concluded that the knowledge and attitude of postnatal mothers towards breastfeeding is far from satisfactory.

Furthermore, the study conducted by Ally (2012) on exclusive breastfeeding: mothers' awareness and health care providers practice during antenatal visits in Mvomero, Tanzania, found out that, out of the 80 pregnant women and the 6 nurses recruited in the study, 94% of pregnant women intended to breastfeed, 68% were aware that colostrum was important and 52.8% were aware of the need to initiate breastfeeding within one hour after delivery. It was also found that 94% of women had never received breastfeeding counselling from

antenatal clinics, 68% of the women received breastfeeding information from their female relatives and only 23.8% intended to breastfeed inclusively for six months. On the nurses' side, the study found out that they had satisfactory knowledge on how to solve breastfeeding problems and breastfeeding in special situations, most of this knowledge appeared to be based on personal and clinical experience, only one nurse received training on breastfeeding. The study concluded that antenatal breastfeeding education as a single intervention improved rates of EBF up to six months after delivery because it prepares women mentally for EBF.

In a study to determine the knowledge, attitude and practices of breastfeeding in Somalia, it was found out that breastfeeding is mainly controlled by culture through maternal grandmothers and other elderly women in the community, and are generally unsatisfactory. Most children are put on breast 2-3 days after delivery and the colostrum is not fed to children by majority of mothers as it is considered heavy, thick, coarse, dirty, toxic, and harmful to children's health. Breastfeeding is however acceptable to all mothers and their networks and almost all children breastfeed on demand. Exclusive breastfeeding (EBF), on the other hand, does not exist in most parts of South Central Zone (SCZ). To majority of the caregivers and their social support network, EBF means feeding children on breast milk and water with some sugar alone without any soft or solid foods. The agreed and acceptable total duration of breastfeeding is 24 months, which is based on the Qur'an verse "*Mothers should breastfeed their children two full years, provided they want to complete the nursing*". Lack of knowledge, inappropriate beliefs and very close birth spacing before the child reaches two (2) years are the major obstacles to successful breastfeeding. Annual celebrations of World Breastfeeding Week had some impact on change in belief and behaviours on breastfeeding in parts of urban livelihood zones where these celebrations have taken place (Food Security Analysis Unit, Somalia, 2007).

Another study on Socio-cultural factors influencing infant feeding practices of mothers attending welfare clinic in Cape Coast, Ghana, 138 mothers participated in the study, the mothers ranged in age from 20 to 39 years with an average age of 29 years. Approximately 75% of the participants were married, 41% had at least some tertiary education, and 75% were employed. It was revealed that breastfeeding and formula feeding were practiced exclusively by 12% and 28% of mothers respectively, while 59.4% of the mothers practiced mixed feeding at the time of the study. 45% of the mothers reported to have introduced their babies to other foods aside breast-milk within the ages of three to four months. 37.7% mothers introduced other foods within the fifth and sixth months of their infants' life. Also, seventeen mothers have not yet introduced their babies to any food apart from breast milk. The percentage of mothers exclusively breastfeeding and formula feeding tend to increase as the age of mothers increases. However, that of mixed feeding decreases as mothers' age increases. Exclusive breastfeeding was high among mothers aged between 28-32 years, among mothers living together with their partners, unemployed, less educated mothers and Christian mothers (Solomon, 2010).

Adeyinka *et al* (2008) conducted a study on Breastfeeding Behaviour and Practices among Nursing Mothers in Nigeria and Ghana, the study demonstrates that no difference was observed in the breastfeeding behaviour of nursing mothers in Africa irrespective of their country of origin. But high level of illiteracy in Africa is basically the factor slowing down the rate at which nursing mothers engage in EBF behaviour and practices. However, another study reported that knowledge and positive attitude alone is insufficient in promoting EBF and recommended that prompt actions must be taken by policy makers and institutions in promoting exclusive and complementary breastfeeding for up to 2 years (Jalil *et al.*, 2013).

### **Exclusive Breastfeeding in Nigeria**

Breast milk is a natural resource that has a major impact on a child's health, growth and development and therefore, WHO and UNICEF recommended that infants should be breastfed exclusively for 6 months and thereafter until 24 months. As such, breastfeeding activities are carried out worldwide in order to fulfil this recommendation. Although, the practice of breastfeeding in Nigeria has been a major aspect of infant feeding, EBF practice is poor. Numerous researchers have identified several factors attributed to such effect, these include, but not limited to, lack of adequate information and support on good feeding practices, EBF in particular; poor attitudes towards and poor practices of EBF.

In a study carried out on breastfeeding knowledge, attitude and practice of mothers in five rural communities in savannah region of Nigeria (Toto LGA in Nasarawa State), 310 mothers were recruited. All mothers attend antenatal clinic but only 33.3% received instruction from health workers on breastfeeding, 54% did not give colostrum to their babies and only 28.6% breastfed their babies within 24 hours of birth. Although breastfeeding is widely practiced, none of the mothers exclusively breastfed their babies and pre-lactal feeds ranging from water, formula or herbal tea were given by all mothers. (Okolo; Adewumi and Okonji, 1999).

The study conducted in Bayelsa state of Nigeria to ascertain the knowledge and practice of exclusive breast feeding among mothers in Gbarantoru Community, by Peterside *et al.*, (2013), it was reported that, 134 women were interviewed with age range of 20 to 35 years with 59.7% and 29.9% of which had secondary and primary level of education respectively. 59.7% of the mothers knew the correct definition and duration of exclusive breastfeeding while 19.4% had never heard of exclusive breastfeeding. 80.6% of the mothers heard

about exclusive breast feeding from health workers during antenatal clinic visits, 10.4% heard about it from either the television or radio and 9.0% heard about exclusive breast feeding from relatives and/or friends. All (100%) mothers breastfed their babies within the first 6 months of life. However, only 44.8% of them breastfed exclusively for 3 to 6 months with a mean duration of 5.4 months. The study also showed that, the rate of exclusive breastfeeding increased with increased maternal age as well as higher maternal education.

In a similar study conducted in Yobe state, 78.4% of the mothers interviewed were not aware of exclusive breastfeeding. Out of the 21.6% of mothers that were not aware of exclusive breastfeeding, 64.5% of them obtained such information from health workers, 9.0% from the media and 7.3% from their husbands and only about 27% could give the correct definition of EBF. 78.8 % of mothers initiated breastfeeding within one hour of delivery and only 57% gave colostrum to their babies. While 39% of the mothers gave their babies breast milk immediately after delivery, 30% gave water, 17.8% gave animal milk as the first food and 4.3% commenced breast milk substitutes. The study also reveals that there is positive correlation between educational attainment of respondent mothers and awareness on EBF and that the more the educational level, the more likely the chances of giving colostrum to the child (Bolanle, 2013).

Another study from Calabar, Cross River state also reported that majority of the mothers were aware of EBF, believed that the practice is desirable and of low cost and knew that breast milk alone is sufficient for the baby for the first six months, yet less than two-thirds of them actually practised EBF. Less than one-third of the respondents who had received information about EBF from health workers actually practised it (Essien, Samson, Ndebbio & John, 2009).

In a study conducted on Growth faltering among exclusively breastfed infants in Ogun State, Nigeria by Amosu, et al., (2010), the focus group discussions' findings showed that majority of nursing mothers received information on breastfeeding from the nurses, community health workers and community health extension workers. Nearly all the nursing mothers could explain exclusive breastfeeding correctly as the process of feeding babies with breast milk alone without adding even water for the first six months, though many confessed that they didn't find it easy. Ekanem et al (2012) reported that attendance of ante-natal clinic enhances mothers' understanding and appreciation of the demands and benefits of EBF and empowers them to resist external interferences and pressures even though 10% of the women never practised EBF believing that their breast milk was insufficient for babies need.

Limited data on EBF exist in northern part of the country precisely Kano, hence the purpose for the study.

### **III. Method Design**

#### **Introduction**

This chapter deals with the methodology used in the study to achieve the objectives of the study. It includes research design, location of the study, population of the study, sample size and sampling technique, instruments used for data collection, method for data collection, procedure used for data analysis and ethical consideration.

#### **Research design**

A cross sectional descriptive survey design was used in the current study

#### **Sample size and sampling technique**

The sample size was obtained using the Fisher's formula:  $N = Z^2 pq/d^2$

Where:

N = minimum sample size required

Z = standard normal deviate at 95% confidence level = 1.96 from the normal distribution table

d = desired precision = 5% = 0.05

p = prevalence of EBF = 17% (National Demographic Health Survey, 2008) = 0.17

q = 1-p = 1-0.17 = 0.83

$$N = \frac{(1.96)^2 \times 0.17 \times 0.83}{(0.05)^2} = \frac{3.84 \times 0.14}{0.0025} = 215.04$$

Thus, the minimum sample size was 215, it is inflated by 19% to 250 to increase precision, and therefore the 250 sample size was used. The respondents were selected using cluster sampling technique. The respondents were clustered in to four groups based on the days of antenatal visits; Monday, Tuesday, Wednesday and Thursday visits. Paper basket method was used to select the respondents on each antenatal visit day

### **IV. Result**

#### **Introduction**

This chapter presents the result findings of the study. It includes socio-demographic characteristics of the respondents, respondents' knowledge of exclusive breastfeeding and attitude of the respondents toward exclusive breastfeeding and exclusive breastfeeding practice of the respondents.

**SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS**

**Age**

**Table 1:** Distribution of Respondents by Age

Age group (years)	Frequency	Percentages
15-20	35	14.0
21-30	144	57.6
31-40	62	24.8
41-50	9	3.6
<b>Total</b>	<b>250</b>	<b>100</b>

250 respondents were recruited in the study within the age range of 15 to 50 years. The mean age of the respondents was 27.3 years and standard deviation of 5.02 years. Most of the respondents (57.6%) were in the age group of 21-30 as shown in the table 1 above.

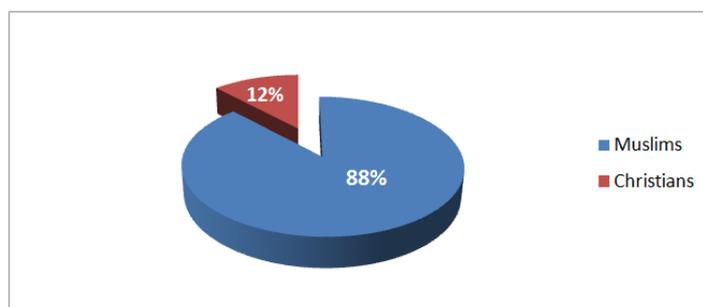
**Ethnicity**

**Table 2:** Distribution of the Respondents by Tribe

Tribe	Frequency	Percentages
Hausa/Fulani	180	72
Yoruba	35	14
Igbo	15	6
Others	20	8
<b>Total</b>	<b>250</b>	<b>100</b>

Majority (72%) of the respondents were from Hausa/Fulani tribe, 14% from Yoruba, 6% from Igbo and 8% from other tribes (Igala, Nupe, Edo and Igbira) as shown in the table 2 above.

**Religion**



**Figure 1:** Distribution of Respondents by Religion

Majority (88%) of the respondents were Muslims while the remaining (12%) were Christians as shown in figure 1 above.

**Marital Status**

**Table 3:** Distribution of the Respondents by Marital status

Marital status	Frequency	Percentages
Single	0	0
Married	243	97.2
Widowed	2	0.8
Divorced	5	2
<b>Total</b>	<b>250</b>	<b>100</b>

Majority (97.2%) the respondent were married, 2% were divorced and 0.8% were widowed as shown in table 3 above.

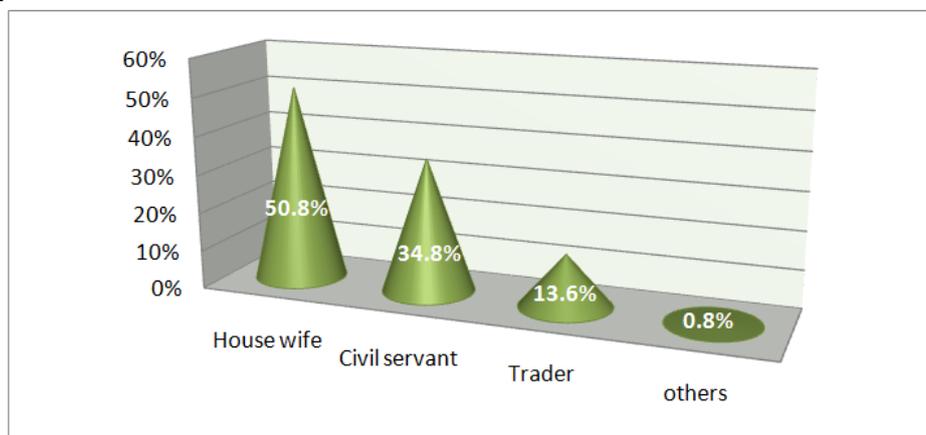
**Level of Education**

**Table 4:** Distribution of the Respondents by Educational level

Level of education	Frequency	Percentages
None	0	0
Informal	18	7.2
Primary school	5	2.0
Secondary school	54	21.6
Tertiary	173	69.2
<b>Total</b>	<b>250</b>	<b>100</b>

Majority (69.2%) of the respondents had tertiary education while 21.6% had only secondary school education, 2% had only primary school education with 18% had informal (religious) education. None of the respondents had no any form of education; this is shown in table 4 above.

**Occupation**



**Figure 2:** Distribution of the Respondents by Occupation

Half (50.8%) of the respondents were full housewives, 34.8% were civil servants, 13.6% were traders and the remaining 0.8% have other occupation (students) as shown in figure 2 above.

**RESPONDENTS' KNOWLEDGE ON EXCLUSIVE BREASTFEEDING**

**Definition and Duration of Exclusive Breastfeeding**

**Table 5:** Respondents' Definition of Exclusive Breastfeeding

Items	Frequency	Percentages
Do't know EBF	12	4.8
Know EBF		
(i) giving the baby breast milk and water only	48	19.2
(ii) giving the baby breast milk only		
(iii) giving the baby breast milk and other baby food	179	71.6
(iv) giving the baby water, breast milk and other baby food	8	3.2
	3	1.2
<b>Total</b>	<b>250</b>	<b>100</b>

**Table 6:** Respondents' knowledge on Exclusive Breastfeeding Duration

Items	Frequency	Percentages
Do not know duration of EBF	12	4.8
Know duration of EBF		
(i) 0-1 month	3	1.2
(ii) 0-2 months	1	0.4
(iii) 0-3 months	17	6.8
(iv) 0-6 month	171	68.4
(v) 0-24 months	46	18.4
<b>Total</b>	<b>250</b>	<b>100</b>

Although 95.2% of the respondents claimed to know what exclusive breastfeeding is, only 71.6% defined it as giving the baby only breast milk, out of which only 68.4% said that child should remain on exclusive breastfeeding for the first six (6) months of life. Others gave the duration of exclusive breastfeeding to be 0-1 month (1.2%), 0-2 month (0.8%), 0-3 months (6.8%) and 0-24 months (18.4). This is shown in table 5 and 6 above.

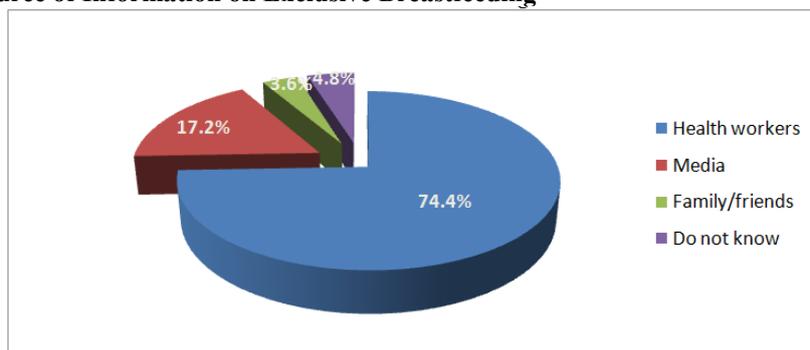
**Initiation of Exclusive Breastfeeding**

**Table 7:** Respondents' knowledge on Initiation of EBF

Initiation of EBF	Frequency	Percentages
Do not know	12	4.8
Immediately after birth	203	81.2
30 minutes after birth	24	9.6
1 hour after birth	5	2
24 hours after birth	6	2.4
<b>Total</b>	<b>250</b>	<b>100</b>

Out of the 95.2% that know what exclusive breastfeeding is, 81.2% said it should start immediately after birth while others said breastfeeding should start thirty (30) minutes after birth (9.6%), one (1) hour after birth (2%) and twenty four (24) hours after birth (2.4%) as shown in table 7 above.

**Respondents’ Source of Information on Exclusive Breastfeeding**



**Figure 3:** Respondents’ source of information on EBF

Majority (91.2%) of the respondents know the benefits of exclusive breastfeeding and out of the 95.2% that knows what exclusive breastfeeding is; 74.4% obtained their information on exclusive breastfeeding from health care workers, 3.6% from media and 17.2% from family/friends. This is shown in figure 3 above.

**RESPONDENTS’ ATTITUDES TOWARD EXCLUSIVE BREASTFEEDING**

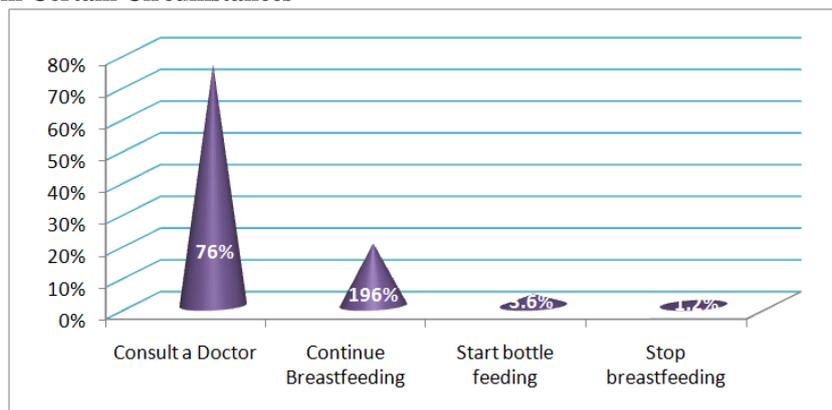
**Respondents’ Attitude towards Excusive Breastfeeding**

**Table 8:** Respondents’ Attitude toward EBF

Items	Frequency	Percentages
Breast milk alone is sufficient for the baby during the first six month of life		
(i) Agreed	174	69.6
(ii) Not agreed	76	30.4
EBF has benefits to the baby		
(i) Agreed	236	94.4
(ii) Not agreed	14	5.6
EBF has benefits to the mother		
(i) Agreed	217	86.8
(ii) Not agreed	33	13.2
Colostrum provides nutrition and protection to the baby		
(i) Agreed	230	92
(ii) Not agreed	20	8

Majority (69.6%) of the respondents agreed that breast milk alone is sufficient to the baby during the first six (6) months of life and almost all (94.4%) the respondents agreed that exclusive breastfeeding has benefits to the baby while 86.8% also agreed that exclusive breastfeeding equally benefits the mother. Furthermore, 92% of the respondents agreed that colostrum provides nutrition and protection to their babies. This is shown in table 11 above.

**Breast Feeding in Certain Circumstances**



**Figure 4:** Respondents’ Breastfeeding pattern in Infant sickness

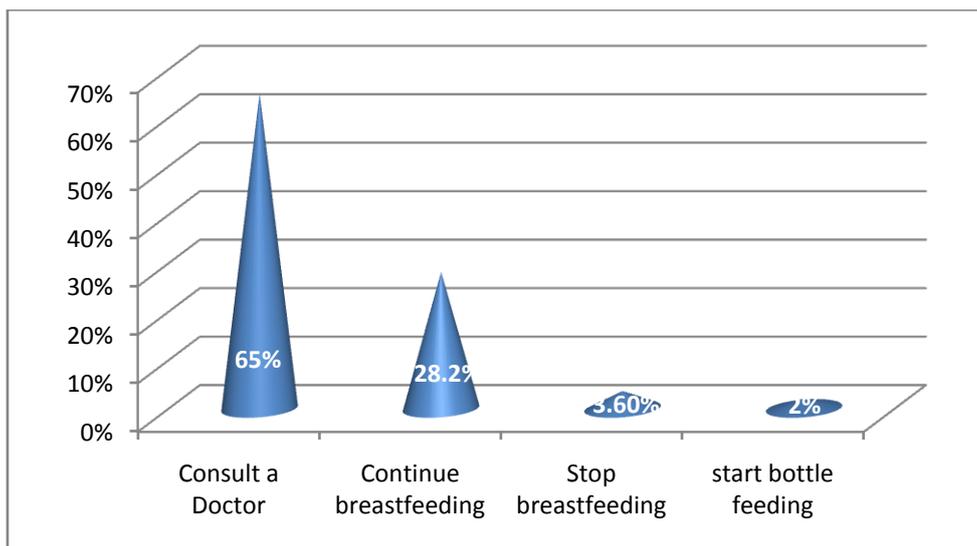


Figure 5: Respondents' Breastfeeding Pattern in Maternal sickness

Majority (75.6%) of the respondents said that they will consult a doctor on whether or not to continue breastfeeding when the baby is sick while 19.6% said will continue breastfeeding even if the baby is sick, 1.2% said will stop exclusive breastfeeding if the baby is sick and the remaining 3.6% said they will start bottle-feeding if the baby falls sick. This is shown in figure 4 above.

Similarly, in maternal sickness 65% of the respondents said will consult a doctor on whether or not to continue with exclusive breastfeeding, 28.2% said will continue breastfeeding and 3.6% said will stop exclusive breastfeeding with only 2% said that they will give other food to the baby as shown in figure 5 above.

**RESPONDENTS' PRACTICE OF EXCLUSIVE BREASTFEEDING**

**Exclusive Breastfeeding Practice and Duration**

Table 9: Duration of EBF of the Respondents

Duration of EBF	Frequency	Percentages
0-1 month	15	6
0-2 months	1	4
0-3 months	13	5.2
0-6 months	118	47.2
0-24 months	30	12

All (100%) the respondents breastfeed their babies and about 70.8% of them practices exclusive breastfeeding out of which only 47.2% exclusively breastfeeds for first six (6) months of life; while others breastfeeds for 0-1 month (6%), 0-2 months (4%), 0-3 months (5.2%) and 0-24 months (12%). This is shown in table 9 above.

**Colostrum**

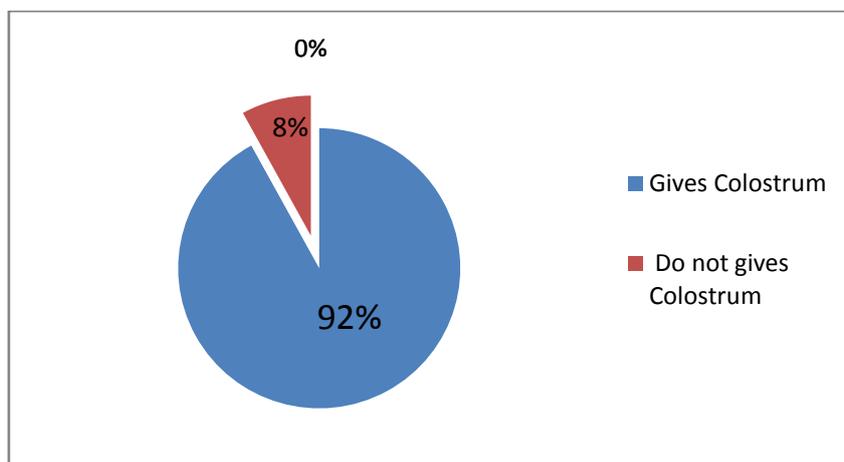
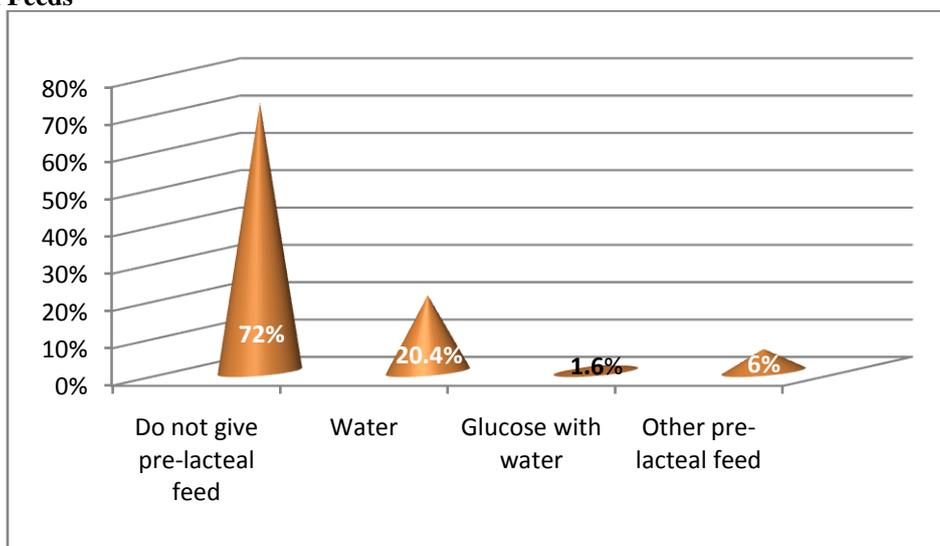


Figure 6: Feeding the baby with Colostrum

Majority (92%) the respondents gives colostrum to their babies and it is only 8% of them that do not gives colostrum because they believed it is dirty and therefore not suitable for their babies. This is shown in figure 6 above.

**Pre-lacteal Feeds**



**Figure 7:** Pre-lacteal feeding of the Respondents

Majority (72%) of the respondents do not gives pre-lacteal feed to their babies but about 20.4% of the respondents gives water, 1.6% gives glucose with water and 6% gives other pre-lacteal feeds (dates, honey and zam-zam) as shown in the figure 7 above.

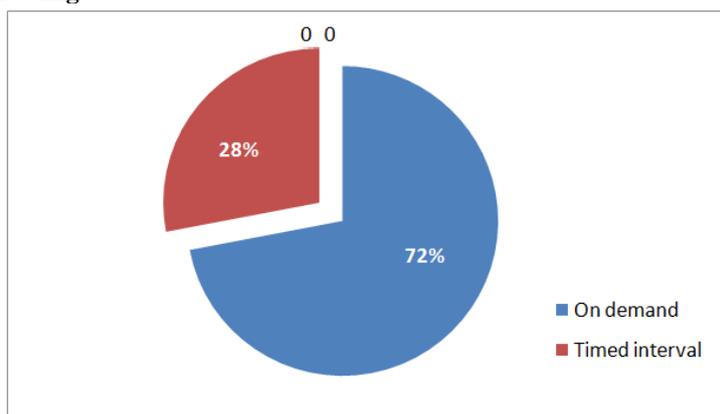
**Mixed Feeding**

**Table 10:** Respondents’ Practice of Mixed Feeding

	Frequency	Percentage
Do not give other food	124	49.6
Give other food		
(i) Water	68	27.2
(ii) Pap and water	35	14
(iii) Infant-formula and water	23	9.2
<b>Total</b>	<b>250</b>	<b>100</b>

Half (50.4%) of the respondents gives other food in addition to breast milk to their babies during the first six (6) months of life and out of 70.8% of the respondents that practice exclusive breastfeeding, it is only 49.6% that do not give any food apart from breast milk to their babies during the first six (6) months of life. Out of the 50.4% that gives other foods, 27.2% gives water only, 14% gives pap and water and 9.2% water and gives infant-formula and water. This is shown in table 10 above.

**Frequency of Breastfeeding**



**Figure 8:** Frequency of Breastfeeding of the Respondents

Majority (72%) of the respondent breastfeeds their babies on demand while only 28% breastfeed on timed interval as shown in figure 8 above.

## V. Discussion

Two hundred and fifty (250) respondents participated in the study most of which were from Hausa/Fulani tribe and practices Islamic religion, this could be due to the fact that majority of the inhabitants in the research area were Hausa/Fulani and Muslims. The age distribution of the respondents was between 15-50 years with mean and standard deviation of  $27.3 \pm 5.02$ .

The study revealed that, even though, majority of the respondents were aware of exclusive breastfeeding, only 68.4% knew the correct definition and duration of exclusive breastfeeding. This is similar to the study findings of **Peterside et al., (2013)** which showed that 59.7% of the mothers knew the correct definition and duration of exclusive breastfeeding, and it is in contrast to the findings of **Bolanle (2013)** which showed that 78.4% of the mothers interviewed were not aware of exclusive breastfeeding and only 27% of them could give the correct definition of EBF. However, **Amosu et al. (2010)** reported that nearly all the nursing mothers could explain exclusive breastfeeding correctly as the process of feeding babies with breast milk alone without adding even water for the first six months, though many confessed that they did not find it easy.

In this study, out of the 95.2% that knew what exclusive breastfeeding is, 81.2% said it should start immediately after birth; this is close with **Bolanle's findings (2013)** which reported that 78.8% of mothers initiated breastfeeding within one hour of delivery.

This study also found out that 74.4% of the respondents obtained their information on exclusive breastfeeding from health care workers, 3.6% from media and 17.2% from family/friends. This is again similar to the findings of **Bolanle (2013)** in which 64.5% of the mothers obtained such information from health workers, 9.0% from the media and 7.3% from their husbands. In the same vein, the study findings are also nearer to the findings of **Peterside et al., (2013)** which revealed that 80.6% of the mothers heard about exclusive breast feeding from health workers during antenatal clinic visits, 10.4% heard about it from either the television or radio and 9.0% heard about exclusive breast feeding from relatives and/or friends. But it disagreed with the findings of **Okolo et al. (1999)** in which only 33.3% of the respondents received instruction from health workers on breastfeeding and also **Ekambaram et al., (2009)** reported that only 17% of mothers that attends antenatal clinic obtained information on exclusive breastfeeding from healthcare workers. Similarly, it was found that 94% of women had never received breastfeeding counselling from antenatal clinics, 68% of the women received breastfeeding information from their female relatives **Ally, (2012)**.

All (100%) the respondents breastfeed their babies and about 70.8% of them practices exclusive breastfeeding out of which only 47.2% exclusively breastfeeds for the first six (6) months of life, 5.2% for 0-3 months and 12% for 0-24 months. This is in accordance with the findings of **Labbok and Taylor (2008)** which reported that among children born in 2004 whose caregivers were interviewed in 2006, nearly 74% were breastfed, however, only 30.5% were exclusively breastfed through three months and 11.3% were exclusively breastfed through six months of age. Similarly, **Peterside et al., (2013)** reported that all (100%) mothers breastfed their babies within the first 6 months of life but only 44.8% of them breastfed exclusively for 3 to 6 months.

Majority (92%) the respondents gives colostrum to their babies because they believed that colostrum provides nutrition and protection to their babies. This is similar with the findings of **Bolanle (2013)** in which 57% gave colostrum to their babies; **Ekambaram et al., (2009)** where 56% of the mothers knew that colostrum needs to be given and **Ally (2012)** where 68% were aware that colostrum was important. On the other hand, only 8% of the respondents were not giving colostrum because they believed it is thick and dirty and therefore not suitable for their babies. This also correspond with the findings of **Jalil et al. (2013)** in which the colostrum is not fed to children by majority of mothers as it is considered heavy, thick, course, dirty, toxic, and harmful to children's health.

**Bolanle (2013)** reported that there is positive correlation between educational attainment of respondent mothers and awareness on EBF and that the more the educational level, the more likely the chances of giving colostrum to the child. This is in line with this study because most of the respondents had at least tertiary education and vast majority of them were aware of exclusive breastfeeding and they gave colostrum to their babies. In addition, **Adeyinka et al. (2008)** reported that high level of illiteracy in Africa is basically the factor slowing down the rate at which nursing mothers engages in EBF behaviour and practices.

Although, majority (72%) of the respondents do not gives pre-lacteal feed to their babies, about 20.4% of them gives water, 1.6% gives glucose with water and 6% gives other pre-lacteal feeds (dates, honey and zam-zam). **Bolanle (2013)** reported that 39% of the mothers gave their babies breast milk immediately after delivery, 30% gave water, 17.8% gave animal milk as the first food and 4.3% commenced breast milk substitutes. Furthermore, **Okolo (1999)** found out that none of the mothers exclusively breastfed their babies and pre-lacteal feeds ranging from water, formula or herbal tea were given by all mothers.

Half (50.4%) of the respondents gives other food in addition to breast milk to their babies during the first six (6) months of life and out of 70.8% of the respondents that practice exclusive breastfeeding, it is only 49.6% that do not give any food apart from breast milk to their babies during the first six (6) months of life. Out of the 50.4% that gives other foods to their babies, 27.2% gives water only, 14% gives pap and water and 9.2% gives infant-formula and water. This is likely due to the fact that the respondents have no adequate knowledge on exclusive breastfeeding. This is also in conformity with the findings of the study conducted by **Khamnian et al. (2013)** that 63% of the mothers thought bottle feeding was acceptable during the first six months of life. Similarly, 45% of the mothers reported to have introduced their babies to other foods aside breast-milk within the ages of 3-4 months and 37.7% of mothers introduced other foods within the 5-6 months of their infants' life (**Solomon, 2010**). **Ally (2012)** reported that 94% of women had never received breastfeeding counselling from antenatal clinics. On the other hand, only 48% of women received exclusive breastfeeding counselling during ante natal clinic (**Ekambaram, 1999**). This demonstrates the need to educate mothers on how they should effectively practice exclusive breastfeeding as recommended.

72% of the respondent breastfeed their babies on demand and this correlates with the study conducted by Food Security Analysis Unit (**FSAU, 2007**) in Somalia where almost all mothers breastfeed their children on demand. This is because the almost all women interviewed in FSAU's study were full housewives and similarly in this study 50.8% of the respondents were full housewives. It is only 28% of the respondent breastfeed on timed interval and this is because majority of them are civil servants, traders or students; they spent most of their time in work place, market or schools respectively. This demonstrated the need to educate mothers on how to breastfeed and maintain lactation even if they should be separated from their infants.

Majority (69.6%) of the respondents agreed that breast milk alone is sufficient to the baby during the first six (6) months of life. This agreed with the findings of Essien (2009) where majority of the mothers were aware of EBF, believed that the practice is desirable and of low cost and knew that breast milk alone is sufficient for the baby for the first six months. In another words, only 10% of the women never practised EBF believing that their breast milk was insufficient for babies need (**Ekanem et al., 2012**). In addition, almost all (94.4%) the respondents in this study agreed that exclusive breastfeeding has benefits to the baby while 86.8% also agreed that exclusive breastfeeding equally benefits the mother and 70.8% of them practices exclusive breastfeeding out of which only 47.2% exclusively breastfeeds for first six (6) months of life.

There is a positive attitude of mothers toward exclusive breastfeeding as majority of them said would continue to breastfeed their babies even when themselves or the babies are sick and it is only 1.2% and 3.6% that said would stop the exclusive breastfeeding when the baby or the mother is sick respectively. This is contrary to what **Ekambaram et al.** reported as up to 38% of the mothers said that they would not breastfeed their child if the child has diarrhea.

This study reveals that there is high awareness of exclusive breastfeeding among pregnant women attending ante natal clinic, the level of knowledge on exclusive breastfeeding among the respondents was equally high and it could be as a result of the fact that most of the respondents obtained their information on EBF from health workers. The practice of EBF, although high, is not as recommended by WHO, UNICEF and AAP as majority of the women that practice EBF gives other foods aside breast milk during the first six (6) months of infants' life. **Ekanem et al (2012)** reported that attendance of ante-natal clinic enhances mothers' understanding and appreciation of the demands and benefits of EBF and empowers them to resist external interferences and pressures. In addition, antenatal breastfeeding education as a single intervention improved rates of EBF up to six months after delivery because it prepares women mentally for EBF (**Ally 2012**).

## **VI. Recommendations**

Based on the result findings of the study, the following recommendations were made:

- I. Exclusive breastfeeding counselling during ante natal clinic should be more elaborative with emphasis on its advantages.
- II. Women should be taught on how to breastfeed and maintain exclusive breastfeeding even if they should be separated from their infants.
- III. There should more public awareness on exclusive breastfeeding through television, radio, newspapers and other mass media
- IV. Government should initiate all necessary measures to support and sustain exclusive breastfeeding.
- V. Further studies on the same topic should be conducted in other setting.
- VI. Researches on factors affecting the practice of exclusive breastfeeding among working mothers should be conducted.

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