

**PRACTICE OF EXCLUSIVE BREASTFEEDING AMONG NURSING
MOTHERS ATTENDING ADEOYO STATE HOSPITAL, YEMETU,
IBADAN.**

BY

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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF
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CERTIFICATION

I certify that this work was carried out by Aisiri Mobolaji Olukemi (Matric Number 168456) under my supervision in the Department of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

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DEDICATION

I dedicate this project to all nursing mothers, who were committed to the care of their children. I pray that their labor of love over these children shall not be in vain. They will live to eat the fruit of their labor in good health. (Amen).

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ABSTRACT

Exclusive breastfeeding (EBF) has been recommended all over the world as the optimal feeding mode for young infants as a survival strategy in reducing infant mortality rate. However, poor level of practice of EBF among nursing mothers still remains a public health problem. The study was conducted to assess the current level of knowledge and practice of nursing mothers on EBF in Adeoyo Hospital, Ibadan.

The study was cross-sectional in design. A simple random sampling method was employed to select 400 nursing mothers who had infants aged between 0-4 months old attending Adeoyo State Hospital, Ibadan, Oyo State. A pre-tested structured, administered questionnaire was used to collect information on socio-demographic characteristics, pregnancy and delivery history, immunization history, knowledge of EBF, infant feeding practices and attitude from the respondents. An 11 item knowledge scale and the 25 item practice scale with correct answer assigned 2 marks each was employed. Also a 10 item attitude scale with correct answer assigned 3 point was also used. Overall knowledge and practice score were categorized into good (scores >14 and 40 for knowledge and practice, respectively), and poor (scores < 14 and 40 for knowledge and practice, respectively). Also attitude scores were categorized into positive (scores > 20) and negative (score < 20). Data were analyze using descriptive statistics, chi – square, and logistic regression at 5%.level of significance.

The age of the respondents was 30.2 ± 4.3 years. Knowledge, practice and attitude scores were 11.58 ± 1.66 , 48.13 ± 3.14 , and 12.58 ± 2.32 respectively. Slightly above half of the respondents (53.2%) were between 30 -39 years old and 95.8% were Yoruba. Majority (95.5%) were married while 41.0% had secondary education. About 55% of the respondents had at least 2 children, while 28.8% had birth interval of ≤ 23 months between index child and the immediate senior. About 34% had poor knowledge of EBF, 26fw.6% had poor EBF practice and 51% had negative attitude towards EBF. Many (94.3%) mothers commenced breast feeding from birth. Proportion with poor practice was significantly higher among the respondents who were married (92.8%), Muslims, (57.5%) and had younger index child (88.5%). Mothers who had children that were < 30 days old were likely to have good practice than mothers with children that were > 120 days old (OR=5.43; 95% CI=1.21 – 24.47).

Mothers who were from monogamous marriage were less likely to have good practice of EBF than mothers in polygamous marriage (OR=0.58:95% CI=0.36 – 0.93).

Knowledge and practice of exclusive breast feeding among nursing mothers attending Adeoyo Hospital Ibadan were still poor. Practice of EBF was generally poor among married women with younger children attending Adeoyo hospital. There is the need to focus more on health talk on EBF and encourage mothers to have positive attitude towards EBF.

Keywords: Exclusive breast feeding, Practice of breast feeding, Nursing Mothers, Adeoyo Hospital

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ABBREVIATIONS

EBF	-----	Exclusive Breast Feeding
WHO	-----	World Health Organization
UNICEF	-----	United Nation Children Fund
NDHS	-----	Nigeria Demographic and Health Survey
NGO's	-----	Non-Governmental Organization
HIV	-----	Human Immunodeficiency Virus
BFHI	-----	Baby-Friendly Hospital Initiative
BF	-----	Breast Feeding
ANC	-----	Ante Natal Care
SPSS	-----	Statistical Package for Social Science
BCG	-----	Bacillus Calmette Guerin
OPV	-----	Oral Polio Vaccine
HEP	-----	Hepatitis B
UN	-----	United Nations
NPC	-----	National Population Commission
UNFPA	-----	United Nations Population Fund
PAHO	-----	Pan American Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

Adequate nutrition in the early years of life is necessary for children to grow and develop to their full potential (Thapa *et al.*, 1988). The World Health Organization (WHO) recommends exclusive breastfeeding (EBF) as the optimal feeding method for the first 6 months of life. This provides valuable benefits to the infants as well as to mothers and the nation as a whole (Kramer M *et al*, Agostonu *et al* 2009). Exclusive breastfeeding refers to feeding only with breast milk, not any other solids or liquids (UNICEF & WHO, 2009).

Breast milk is the safest and most natural food for an infant. It provides an infant's complete nutritional needs up to four to six months of age. There is no need for other food or drink before this age. Studies have shown that there are various advantages of human breast milk to infants, mothers, families and the society at large (Vanghuist, 2000). These advantages cut across health, nutritional and developmental benefits, one of which is the fact that it has resulted in an overall decrease in infant morbidity and hospitalization rates. Breastfeeding is therefore a universally recommended way of providing infant nourishment (WHO and UNICEF, 2003), and it is carried out worldwide in order to fulfill the WHO and UNICEF recommendation that infant be breastfed exclusively for six months and thereafter until 24 months (WHO and UNICEF, 2003). Exclusive breastfeeding refers to feeding only with breast milk, not any other solids or liquids (UNICEF and WHO, 2009).

The knowledge of exclusive breastfeeding dates back many generations ago when babies were almost universally breast fed. About forty years ago, the number of women who choose to breastfeed began to decline. The lowest proportion of women who breastfed their babies occurred in the early 1970's when fewer than 40% choose to breastfeed and by six weeks after childbirth fewer than 20% breastfed, especially among middle class women (Jellife, 1985). Thus, duration of exclusive breast feeding practices are declining and various factor have been associated with the reduction. These include social factors, practice in health care facilities, advertising and promotion of infant feeding products (Singh, 2010).

Many demographic factors such as maternal age, marital status, education, race, socioeconomic status, cultural factors, parity, number of children at home, and social

support have been shown to potentially influence a woman's decision to breastfeed (Bass and Groer, 1997; Goksen *et al.*, 2002; Li *et al.*, 2002; Scott and Binns, 1999). In a study carried out by Singh (2010), it was discovered that the educational level, religion, marital status, socioeconomic status and occupation of mothers have an effect on the duration of breastfeeding. Mothers with little or no education breast fed their babies for shorter duration of months than the more educated ones. Christian mothers were found to breastfeed for a longer duration as compared to the Muslims. Married mothers were also found to breastfeed for a longer duration as compared to the unmarried ones.

Breast feeding duration was also found to be low among working women due to reasons like short maternity leave, workplaces where babies were not allowed and even in places where they were allowed, there was no privacy for breast feeding the babies or for expressing milk to bring to them. A study carried out in Brazil showed that extension of the maternity leave of 120 days in various industries was associated with 97% of working women breast feeding for a median duration of 150 days. Higher socio economic status, nursery facilities and existence of a place in which to extract and store mother's milk at work place were associated with factors of longer duration of breast feeding (Rea *et al.*, 1997).

Poor or negative attitudes toward breastfeeding have also been shown to be barriers to initiating and sustaining breastfeeding (Bass and Groer, 1997; Dennis, 2002). Previous research has shown that maternal attitudes toward breastfeeding and perceptions of infant health benefits of breastfeeding influence the decision to breastfeed (Forste *et al.*, 2001; Kieffer *et al.*, 1997; Pascoe *et al.*, 2002).

The decline in the practice of breastfeeding, which started in developed countries like the U.S., has been observed in developing countries as well (Galler *et al.*, 1999). Poor breastfeeding practices are a major cause of neonatal and infant mortality.

Esan (1999) reported that about 14-15 million of the third world children die of disease and malnutrition on or before reaching the age of five. This can be as a result of factors such as intensive feeding habits and the decline in breastfeeding practices. This decrease in breastfeeding rates around the world has serious implications for infant health in developing countries

In Nigeria, 52% of childhood deaths are attributed to the effect of malnutrition on disease (WHO, 1995). Similarly, 21% of infant deaths in the country result from poor breastfeeding practices (UNICEF, 2001). Although breastfeeding is universal in the country, the trend is towards giving other feeds in addition to breast milk (Nwankwo *et al.*,

2002; Ighogboja *et al.*, 1996; Omotola *et al.*, 2005). Reports show that the rate of EBF in the first 6 months of life is as low as 17% (UNICEF 2001). This has been attributed to several socio-economic and cultural factors (Agarwal, 1982; Arora, 2000). However, these factors are still not adequately defined

1.2 Problem Statement

The major aspect of infant feeding in Nigeria, like in many countries of sub-Saharan Africa, has been the practice of breastfeeding. The duration of exclusive breastfeeding practices are declining and social factors, practices in health care facilities, advertising and promotion of infant feeding products have been implicated. The Nigeria Demographic and Health Survey (NPC/ICF MACRO, 2008) report showed a 13% exclusive Breastfeeding rate which is a decline from 17% indicated in 2003 report, The 2008 report also revealed that 34% of the infants aged 0-5 months were given plain water in addition to breast milk, while 10% were given non- milk liquids and juice and 6% were given milk other than breast milk. Furthermore, only 32% of children under 24 months of age were still on breast milk.

The global scheme to promote exclusive breastfeeding is still a concern in Nigeria. This is as a result of an expensive venture; the type of care the child received is no adequate. The practice becomes totally entrenched even amongst those who could barely afford it. Many believe that exclusive breastfeeding causes an undue strain on the mother. Considering the percentage of mothers practicing exclusive breast feeding, it should not be surprising that Nigeria is still saddled with high incidence of malnutrition and its associated infant mortality.

Unarguably, a number of conferences have been held on the subject. In addition, most effort in the past has taken much effects on exclusive breast feeding practice, despite of the high awareness of EBF, it was discovered that some mothers still gives formula to their infants. Most nursing mothers possess the knowledge of exclusive breastfeeding but don't practice it rightly. This set of women will therefore benefit from this study as it will focus on factors influencing the breastfeeding practice that is exclusive. The researcher is interested in improving the awareness on the practice of exclusive breastfeeding. In order to improve the awareness towards breast feeding, breast feeding knowledge, breast feeding practice and attitude were investigated to identify the factors that will encourage breast feeding practice. In addition, the findings of this work can be a reference to other research work.

1.3 Justification

This study will promote the understandings of infant feeding experiences which will provide an important public health perspective on infant nutrition. Several studies have considered impact of maternal social demographics, employment, the health care system, maternal-child health medical issues, and cultural beliefs on breastfeeding initiation. (Scott et al., 1999 and Fein et al., 1998).

However, many articles have focused on the relationship between birth order, breastfeeding initiation and duration among mothers having infants between 0 – 4 months old. The rationale of using this group includes the fact that this group determines the growth and development of infants through giving of adequate feeding which helps in the reduction of morbidity and mortality rate among the infants.

The focus of this project is to describe the past and present trends about the knowledge and practices of exclusive breast feeding. It will assess the impact of previous effort of researchers, government, UNFPA and other non-governmental organizations (NGO'S) on the practice of exclusive breast feeding. By and large, it will serve as an advocacy tool for a more coordinated approach to finding a remedy to unresolved issues concerning breastfeeding initiation and practice of exclusive breastfeeding among nursing mothers. Consequently, health education could improve on the awareness of EBF.

1.4 General Objective

The main objective of this study is to find out the practices of exclusive breast feeding amongst nursing mothers attending post-natal, infant welfare and immunization clinics at Adeoyo Hospital Yemetu Ibadan, Oyo state.

1.4.1 Specific objectives of this study are: To

- Determine the knowledge level of mothers on exclusive breastfeeding
- Describe the attitude of the mothers towards exclusive breastfeeding
- Assess the current practice of exclusive breastfeeding
- Assess the relationship between socio – demographic characteristics and practice of exclusive breastfeeding.
- Identify the predictors of exclusive breastfeeding practice among the nursing mothers

1.5 Research questions

1. What is the knowledge level of nursing mothers on exclusive breastfeeding?
2. What is the attitude level of the nursing mothers towards exclusive breastfeeding?
3. What is the prevalence of exclusive breastfeeding among nursing mothers?
4. Are there relationship between socio – demographic characteristics and practice of exclusive breastfeeding
5. What are the predictors of exclusive breastfeeding among the nursing mothers in this study

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CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Breast Feeding

Breastfeeding is one of the indispensable ways of providing ideal food for the healthy growth and development of infants (WHO, 2012). Breastfeeding is the feeding of an infant with breast milk directly from female human breasts rather than from a baby bottle or any other container. Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases (Okolie, 2012). Breastfeeding contributes to the health and well-being of mothers; delays menses, helps to space children, reduces the incidence of ovarian and breast cancer (Kramer and Kakumer, 2012), increases family and national resources and is a secure way of feeding and saving the environment. Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases. Breastfeeding is also associated with improved maternal recovery post partum. It is absolutely essential for the health and survival of the majority of children in the developing countries (Okolie, 2012). Initiation of breastfeeding within the first hour of breast milk is the natural first food for babies as it provides all the energy and nutrients that the infant needs for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life (WHO, 2012).

Breast-feeding is critical for sustaining new born and infant health and wellbeing. Infants who are properly breast-fed grow better and experience less sickness and fewer deaths than other infants who are not breast-fed. Breast-feeding is reported to save six million infant lives each year by preventing diarrhea and acute respiratory infection (Kramer and Kakumer, 2012; El-kariri and Kanoa, 2007).

2.2 Exclusive Breast Feeding: Definition and Concept

Exclusive breastfeeding, according to the World Health Organization (WHO) and United Nations Children Emergency Fund (UNICEF) is the feeding of the infant with only breast milk for a period of 6 months without any additional food or drink, not even water. Thereafter, infants should receive adequate complementary foods with continued breastfeeding up to 2 years of age or beyond (Okolie, 2012). Exclusive breast-feeding is

internationally the preferred way of feeding infants during the first 6 months of their lives, and is recognized as being one of the most natural and best forms of preventive medicine.

Early and exclusive breastfeeding is widely regarded as an important intervention that reduces neonatal, infant, and child mortality, and remains a basis for child survival strategies. On 18 May 2001, the World Health Organization (WHO) endorsed exclusive breastfeeding (BF) until an infant is 6 months of age. If universal exclusive breast feeding is observed in the first 6 months, an estimated 1.5 million lives could be saved each year (Abdul-Ameer, Alhadi and Abdulla, 2008).

At the fifty-fifth World Health Assembly, the World Health Organization (WHO) recommended exclusive breastfeeding as an optimal nutrition for infants within the first six months of life, followed by the introduction of nutritionally adequate and safe complementary feeding with continued breastfeeding for up to the age of two years or beyond. Promotion of exclusive breastfeeding (EBF) for the first 6 months of life has been estimated to be the most effective preventive strategy for saving the lives of young children in low-income settings and could contribute towards the Millennium Development Goal 4 of reducing child mortality (Okolie, 2012).

2.3 Benefits of Exclusive Breast Feeding

Exclusive breastfeeding, which is giving breast milk only and no other liquids, except drops or syrups with vitamins, mineral supplements or medicines, is superior to non-exclusive breastfeeding with a protective effect against both morbidity and mortality. Exclusive breast-feeding provides low cost, complete nutrition for the infant, protects him/her against infections including infant diarrhea, and prolongs lactation amenorrhea, thereby increasing birth spacing (Oche, Umar and Ahmed, 2011). Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhea or pneumonia, and helps for a quicker recovery during illness.

In a systematic review commissioned by the WHO which compared infant and maternal outcomes for exclusive breastfeeding, it concluded that infants exclusively breastfed for 6 months experienced less morbidity from gastrointestinal infection (Fewtrell, Morgan, Duggan, Gunnlaugsson, Hibberd, Lucas, Kleinman, 2007).

Despite strong evidences in support of EBF for the first six months of life, its prevalence has remained low worldwide. In Nigeria, breastfeeding is universal with almost

all babies being breastfed. However, the practice of EBF is rare with only 17% of children younger than six months being exclusively breastfed (Oche, Umar and Ahmed, 2011). Although exclusive Breastfeeding has been recommended the world over as the optimal feeding mode for young infants (Ogbonna and Daboer, 2007) and although nationwide efforts to promote exclusive breastfeeding began in Nigeria in 1992, there is paucity of information on the knowledge, attitude and practice of exclusive breast feeding among mothers in Ibadan LGA.

2.4 Knowledge of Exclusive Breast Feeding among Mothers

A study among mothers in Iraq observed that although 37.7% of the sample reported that they knew what full exclusive BF was, only 41.8% of these women defined it correctly and 49.5% of these reported that full exclusive BF should continue for 6 months postpartum (Abdul-Ameer, Alhadi and Abdulla, 2008). In a study on knowledge, attitude and practice of Infants' feeding among mothers in Gaza strip, 85% of the mothers had been informed about the importance of breast-feeding. The main source of information about Exclusives breast-feeding was through primary health care practitioners and health education. Media represented 22% of the average of information sources (El-kariri and Kanoa, 2007).

In Enugu, South East, Nigeria, according to Ukegbu, Ebenebe, Ukegbu and Onyeonoro (2011) in a study from tertiary hospital, majority of nursing mothers (91.2%) had good knowledge of breastfeeding. Their main source of breastfeeding education was government health facilities. Similarly, in a study conducted by Okolo, Adewunmi, Okonji, (1999), 33.0% of the respondents received instruction on breast feeding from health workers, during the conduct of the study on the knowledge, attitude, and practices regarding breastfeeding of 310 mothers in five rural communities in Toto Local Government in Nassarawa State, Nigeria. In a cross sectional study to determine the current level of knowledge and practice of nursing mothers on exclusive breastfeeding in Jos, out of the 470 nursing mothers studied, 82.3% were able to define correctly exclusive breastfeeding (Ogbonna and Daboer, 2007).

Furthermore, according to a study on infant feeding among women attending an immunization clinic at a tertiary health institution in Ibadan, Nigeria, almost all the mothers (97.3%) had good knowledge about exclusive breast-feeding (Fatiregun and

Abedunde, 2007), A similar situation is supported by Uchendu, Ikefuna and Emodi (2007) in a study in tertiary institution, where more than 90% had adequate knowledge of EBF while in another study by Okolie (2012), 8% women expressed no knowledge of EBF. Out of the 53 mothers that stopped breastfeeding, 85% of them did so between 16–20months. Sixty percent of the mothers were aware of exclusive breastfeeding but only 30% of them had adequate knowledge of EBF having scored 50% or more in the assessment of knowledge of EBF. Main Sources of information on EBF were mothers of respondents and health workers (Omer, Uche and Ahmed, 2011).

2.5 Practice of Breastfeeding among Nursing Mothers

Although, studies by Ojofeitimi, Esimai, Owolabi, et al (2000) confirmed that exclusive breast feeding which was once considered to be less than 3%, has increased significantly to 61%, the practice of EBF is rare with only 17% of children younger than six months being exclusively breastfed (Oche, Umar and Ahmed, 2011).

In Brazil, mean duration of exclusive breast feeding is only 28.9 days. It has been found in a study that only 14% of mothers exclusively breast fed for 120 days of Age and only 4% for 180 days. In Malaysia, however, the results are no better as only 25% of babies are breast fed exclusively at 2 months. In westernized cities of Bogota and Bangkok, only 12% and 21% of babies respectively are breast fed exclusively at 1 month. In Nairobi, the decline is no better. Only 20% of babies are breast fed exclusively up to 2 months. In Jemarang however, about 42.0% of babies were exclusively breast fed for 2 months (Singh, 2010).

Also, in Cambodia, 25% of women sampled initiated breastfeeding within the first hour post-delivery. In total, 82% of women initiated breastfeeding within the first 24 hours post-delivery, and 53% of women breastfed exclusively for exactly the recommended 6 months' duration. Nine women who reported exclusive breastfeeding for 6months did not initiate breastfeeding within the first 24 hours post-delivery, likely because of the cultural practice of "roasting" (Wren and Chambers, 2011).

In Gaza Strip, according to El-kariri and Kanoa (2007), results showed that 46% of infants were breast-fed for less than one year. The study also found that 13% of the

mothers were not interested in feeding colostrums. More than 26% had introduced solid foods before the age of 4 months.

In Turkey, however, a vast majority of babies 1-5 months of age (89.4%) are given complementary foods. Of the 514 mothers who participated in the research, 50.6% were found to be feeding their babies exclusively with breast milk; 15.0% were fed with breast milk and water; 16.9% with breast milk and baby formula; 13.6% with breast milk + baby formula + other foods; and 3.9%, baby formula + other foods (Karacam, 2008).

According to Oche et al (2011), 31% of the mothers practiced exclusive breastfeeding (Oche et al, 2011). Concerning the breastfeeding practices of the mothers, more than half, (53%) initiated breastfeeding immediately (<30minutes) after delivery, while 85(47%) did so long after 30 minutes. The exclusive breastfeeding rate was 33.3% for children aged 0-3 months, 22.2% for children aged 4-6 months and 19.4% for children aged 7-24 months at the time of the study (Ogunlesi, 2010).

In a study conducted in Enugu, South east Nigeria, the exclusive breast-feeding rate was 33.3% (Aghaji, 2002). In Nasarawa Nigeria, Only 28.6% of babies were breastfed within 24 hours of birth, none of the babies was exclusively breastfed, and prelacteal feeds ranging from water, formula, or herbal tea were given by all the mothers (Okolo, Adewunmi and Okonji, 1999).

According to Ogbonna and Daboer (2007), 67.0% of women practiced or were practicing exclusive breastfeeding. Ninety six (20.4%) nursing mothers said they never breastfed their babies while in public place. In a rural community in Sokoto, Nigeria, only 8% of the respondents had initiated breastfeeding less than one hour after delivery, while majority, 69% did so after 24hours. Exclusive breastfeeding was highly practiced in this community as 78.7% of the mothers gave only breast milk up to six months after delivery. None of the mother's breastfed for less than six months while 71% did so for 19-24 months (Oche and Umar, 2008).

In a study on determinants of breast feeding pattern in Anambra state, only 37.3% of the children were breastfed exclusively (Ukeagbu et al, 2011). In a similar study, only a small proportion (19%) of the nursing mothers practiced exclusive breastfeeding (Agunbiade and Ogunleye, 2012). Thirty-nine (21.2%) practiced exclusive breastfeeding for all their children while 51.6% never practiced for any child (Uchendu et al, 2009). In a survey in Ibadan, Nigeria, exclusive breastfeeding dropped from 57.4% at 1 month to 23.4% at 6 months (Lawoyin, Olawuyi and Onadeko, 2002).

In a study to determine infant feeding among women in Ibadan, Exclusive breastfeeding decreased with the age of the infant; by six months of age, only 40% of infants were exclusively breastfed. Of the mothers who practiced exclusive breast-feeding, 18.5% initiated breast-feeding within 30 minutes after birth (Fatiregun and Abegunde, 2009). Further, in an analysis of infant feeding pattern among HIV mothers in Ibadan, 28.3% of mother's breastfed their babies exclusively for six months and 50.8% initiated breastfeeding within one hour of birth (Brown, Oladokun and Osinusi, 2009). Maternal education below secondary level strongly contributed to pre-lacteal feeding and failure to practice exclusive breastfeeding (Ogunlesi, 2010).

2.6 Determinants of Exclusive Breast Feeding among Nursing Mothers

Exclusive breastfeeding was positively related to vaginal birth, baby's first feed being breast milk, mother living in the suburbs or rural areas, younger age of mother, lower maternal education level and family income (International breast feeding journal, 2009). According to Ogunlesi (2010), higher proportions of mothers with at least secondary education, clinic-based antenatal care and delivery in health facilities initiated breastfeeding within one hour of birth and practiced exclusive breastfeeding for the first 6 months of life (Ogunlesi, 2010). In addition, younger age of infant, higher maternal occupation and delivery in tertiary or secondary health facility were predictive of exclusive breastfeeding as mothers 24 years or younger and primiparous mothers were less likely to breastfeed their babies exclusively (Lawoyin et al, 2002). The knowledge and practice of exclusive breastfeeding was found to increase with increasing age and better educational status of the women (Ogbonna and Daboer, 2007).

2.7 Hindrances to the practice of exclusive breast feeding

Numerous reasons by several authors were given by nursing mothers for not practicing exclusive breast feeding. The main obstacle to exclusive breastfeeding was the belief that water is required to quench thirst in babies. Expression of breast milk was not favored by majority of the mothers (68%) most of whom felt that the milk would get contaminated (Brown et al, 2009).

Some mothers gave reasons for delayed initiation of breastfeeding to include colostrum's being dirty and thought to be harmful to the child, lack of breast milk and

mother or child illness. For the women who considered colostrum dirty, while awaiting the coming of the clean milk, they gave boiled water, honey, animal milk and washouts from writings of the Quran on slates (Oche et al, 2011, Abdul-Ameer et al, 2008). Delivery of children outside health facilities strongly contributed to delayed initiation of breastfeeding and failure to breastfeed exclusively (Ogunlesi, 2010).

Exclusive breastfeeding is considered dangerous to the infant as the baby has an obligatory requirement for supplementary water to quench its thirst and promote its normal development. Therefore, colostrum is usually discarded as it is dirty, "like pus", and therefore potentially harmful to the infant, although 24% of the survey sample would give it to their babies (Adetugbo Davies, 1997). In addition, about 88.0% of women reported interference from mothers-in-law to give water as a major socio-cultural problem they faced according to Okolie, (2012). Psychological problems encountered ranged from worry and stress of feeding at all times even at night, having to breastfeed even in public places, fear that the baby might not be getting enough nutrients, to trauma of expressing breast milk, fear of safety of expressed breast milk and a feeling that the baby will dry up if not given water or other fluids. Other factors identified were: work place not conducive, lack of adequate education at ante natal clinics (Okolie, 2012).

Factors associated with exclusive breast-feeding included infants' birth order, fathers' education, mothers' education, occupation and parity. In the mothers' perspectives, the commonest reasons for not breastfeeding exclusively included; insufficient breast milk and the socio cultural practice of giving water to babies because of the hot climate (Aghaji, 2002). Also, the desire to practice exclusive breastfeeding was often compromised shortly after child delivery. Poor feeding, inadequate support from husband and conflicting positions from the significant others were dominant constraints. The qualitative findings also revealed that health-related problems, refusal of breast milk by some children, inadequate feeding, and lactation problems were common constraints to exclusive breastfeeding. A recurrent position in the interviews with breastfeeding mothers and nurses was that the discontinuation of exclusive breastfeeding might be against the desires of some mothers (Ogunbiade and Ogunleye, 2012). Maternal education below secondary level strongly contributed to pre-lacteal feeding and failure to practice exclusive breastfeeding (Ogunlesi, 2010).

2.8 Strategies for Promotion of Exclusive Breast Feeding

Research has demonstrated that mothers and other caregivers require active support for establishing and sustaining appropriate exclusive breastfeeding practices. To that effect, WHO and UNICEF launched the Baby-friendly Hospital Initiative in 1992, to strengthen maternity practices to support breastfeeding. The foundation for the BFHI is the ten Steps to Successful Breastfeeding which is geared towards protecting, promoting and supporting breastfeeding: according to a Joint WHO/UNICEF Statement. The evidence for the effectiveness of the Ten Steps has been summarized in a scientific review document (Worugji and Etuk, 2005).

The BFHI has been implemented in about 16,000 hospitals in 171 countries and it has contributed to improving the establishment of exclusive breastfeeding world-wide. While improved maternity services help to increase the initiation of exclusive breastfeeding, support throughout the health system is required to help mothers sustain exclusive breastfeeding (WHO, 2011)

WHO and UNICEF developed the 40-hour Breastfeeding Counselling: A training course to train a cadre of health workers that can provide skilled support to breastfeeding mothers and help them overcome problems, both institutions have also developed a 5-day course on Infant and Young Child Feeding Counselling, to train health workers so they become competent and able to promote appropriate breastfeeding, complementary feeding and feeding of infants in the context of HIV. Basic breastfeeding support skills are also part of the 11-day Integrated Management of Childhood Illness training course for first-level health workers, which combine skills for adequate case management with preventive care. Evaluation of breastfeeding counseling delivered by trained health professionals as well as community workers has shown that this is an effective intervention to improve exclusive breastfeeding rates (WHO, 1993).

The United Nations Children's Fund (UNICEF) called for greater global commitment to promote Breast feeding (BF). In some countries of the Middle East and North Africa where the advantages of BF have been widely publicized and where the Baby-friendly Hospital Initiative (BFHI) has been implemented, BF rates are increasing. Countries like the Islamic Republic of Iran, Iraq, Jordan, Morocco, Oman, Syrian Arab Republic and the Gulf countries have successfully adopted BF promotion and BFHI since

the 1990s (Abdul-Ameer, Alhadi and Abdulla, 2008). At the Innocenti Declaration in 1990, the WHO/UNICEF called for policies that would cultivate a breastfeeding culture that encourages women to breastfeed their children exclusively for the first 6 months of life and then up to 2 years of age and beyond (Agunbiade and Ogunleye,2012).

Before 2001, the World Health Organization (WHO) recommended that infants be exclusively breastfed for 4-6 month with the introduction of complementary foods (any fluid or food other than breast milk) thereafter. In 2001, after a systematic review and expert consultation, this advice was changed, and exclusive breastfeeding is now recommended for the first 6 months of life (Fewtrell, Morgan, Duggan, Gunnlaugsson, Hibberd, Lucas, Kleinman, 2007).

In Nigeria, as well as in neighboring West African countries, infant morbidity and mortality have been on the increase despite the efforts of mothers to breast feed their young ones (Okolie, 2012) and nationwide efforts to promote exclusive breastfeeding (Lawoyin et al, 2001). The increase use of infant formula and substitutes too early in a baby's life contributes to the high degree of under development and malnutrition in our children (Singh, 2010).

CHAPTER THREE

METHODOLOGY

3.1 Study Area

The study was carried out in Adeoyo State Hospital, Ibadan. Which is located in the densely populated area of Ibadan. The catchment areas to the state hospital are; Beere, Yemetu-Aladorin, Yemetu-Alawada, Mapo, e.t.c. The hospital has different departments namely: Emergency unit, Out-patient department, Children Out-patient department, Special care baby unit, Family planning unit, Lying-in-ward, Health education unit, Ante-natal unit, Gynecology clinic, Immunization unit, Main Theatre, Children ward, Laboratory, Physiotherapy unit, Pharmacy, Radiotherapy, Mortuary and Administrative block. The hospital focuses on secondary health care, care of pregnant women, deliveries. The Ring Road hospital which serves as annex to the Adeoyo Hospital was established in 1971 and it renders the same service as the main hospital.

The social amenities available are: Pipe born water, electricity, Restrooms, Good Road network, Laundry, Recreation centre, Vehicles e.t.c and it has about 310 skilled and unskilled staffs. The hospital is headed by Chief medical directors and other subordinates directors of other unit.

3.2. Study population

Ohaja (2003:75) Citing Peil (1988:26) refers to population as all cases of individual that fits a certain specification also Nwodu (2004:86) defines population as the universe from which sample are drawn. Therefore the study population refers to WCBA who falls under the same umbrella including any woman who is currently breastfeeding children between 0-4months who are attending post natal clinic, Immunization unit, Children out patient department at Adeoyo State Hospital Ibadan.

3.3 Study design

This was a descriptive cross sectional study that was carried out among nursing mothers of children between the ages of 0-4 months at Adeoyo State Hospital. To determine trends of EBF and other sample characteristics. This type of research does not

require follow up therefore it is less costly and less time intensive than other designs. Descriptive statistics measure was use to analyze quantitative data collected.

3.4. Sample Size determination.

The study population comprises of women who are 427 in numbers currently nursing a child between the ages of 0-4months attending Adeoyo State Hospital between October-December 2013. They were asked to participate in the research, to investigate their attitude, knowledge and practice of EBF. The sample is a convenient sample, because the participants are volunteers, the chosen are on availability.

The sample size was calculated using Leslie Kisch's formula

N= minimum sample size

Z=1.96

P=the proportion of mothers that practices exclusive breastfeeding estimated at 50% (0.5) (Ogunlesi, 2010)

q=1-p

d=5% level of significant

f = 10% non-response rate

$$n = 384.16$$

Adjusting for 10% non response

To account for non-response;

$$n = \frac{n}{f}$$

$$n = \frac{n}{0.9}$$

$$n = 384.16/0.9$$

$$n = 426.84$$

n= 427 Nursing mothers attending Adeoyo hospital Ibadan. The calculated size was 400. This number was increased to 427 in order to make up for cases of poorly filled or uncompleted questionnaire.

3.5 Inclusion criteria:

Inclusion criteria were nursing mothers between the ages (15 – 49 years old), who had infants between ages 0 – 4 months and were still breastfeeding as at the time of the study.

3.6 Exclusion criteria

1. Women above reproductive age (15- 49 years)
2. Women with infants older than four months.
3. Women who were not breastfeeding

3.7 Sampling method

A simple random sample was used in which each nursing mothers in the study population was given equal chance to be selected. The required number is known and random sample is done to make a list of all individuals sample unit (sample frame), in the population been sampled. Each unit is giving a number and these gives eligible participants an equal chance of been selected.

3.8 Study Instrument

The researcher adopted the use of questionnaires as instrument of data collection. According to Ohaja (2003:89) the questionnaire is another instrument use to collect data for surveying and sometimes for experiment, therefore a semi – structured questionnaire used was made up of closed ended questions and few open-ended questions, with the closed ended questions pre-coded to facilitate quick analysis. Data were collected using a pre – tested administered questionnaire to interview all the Nursing Mothers who consented to participate. To avoid lack of communication/ understanding of the terms involved in the research, the protocol was translated to Yoruba language, which is the predominant language in the area. A research assistant who read, write and speak Yoruba

fluently was used during the interview to aid proper communication. The questionnaire had six sections. The six sections included:

- a) Socio demographic characteristics: this section included variables such as ; age at last birth day, sex, ethnic group, educational status, marital status, type of marriage, religion etc
- b) Pregnancy and delivery history: number of living children, birth interval, Antenatal clinic attendance, number of ANC, place of delivery, nature of delivery
- c) Childs vital information: Child's age, birth order, child sex
- d) Exclusive breastfeeding/ current infant feeding practices of mothers
- e) Mothers knowledge of Exclusive Breastfeeding
- f) Mothers attitude to Exclusive breastfeeding

3.9 Study Variable

Section 1: Deals with socio-demographic and personal data and also it collects personal information about the respondent.

Section 2: (knowledge): Deals with the view of determining the level of knowledge of the respondent on Exclusive Breast feeding. Knowledge of exclusive breast feeding was scored based on Ten (10) questions with each correct answer attracting two marks. The total marks is 20, the mean score is 14. Less than 14marks is indicated as poor knowledge.

Section 3: (practice): This is to determine if exclusive breast feeding is practiced and if not why. EBF practice was assessed using 25 questions with correct answers attracting 2marks each, the overall total is 50marks, and the mean score is 40marks. Less than 40marks is indicated as poor practice.

Section 4: (Attitudes): Deals with the aims of determining how the respondents feel about Exclusive Breast feeding. Likewise the attitude scores was based on 10 questions, with correct answers attracting 3marks and overall mark is 30, mean scores

is 20marks. Lesser than this indicate poor attitude and greater 20marks indicate good attitude.

3.10 Pilot Study

The questionnaire was given to the research supervisor for face validation to ensure that the questions were adequate to elicit appropriate information required for the investigation. The pretested questionnaires were analyzed and necessary corrections were effected.

3.11 Data Analysis

After collection of data, the data were summarized and organized by using the appropriate, descriptive statistics and analyzed with SPSS software version 15. The mean and variability as indicated by measures of variance and standard deviation for variables such as mother's knowledge score, attitude scores and practice scores. Also multiple logistic regression model was used to predict the demographic factors which influenced breastfeeding practices.

3.12 Limitations of Study

The issue of exclusive breast feeding is very important to the survival of new born and children, and due to social cultural reasons some of the respondents had a negative attitude towards participating in this research work.

Worth to mention, uncooperative attitude of mothers, also, some of the instruments were not properly or incompletely filled, rendering them less useful. Increasing the sample size from 400 to 427 was used so as to have the desired number of participants.

3.13 Ethical

Ethical clearance was obtained from Oyo state Ministry of Health Research and ethical review committee Ibadan, Oyo State. The research will be at no cost to the participants as the researcher shall bear the cost. Informed written and verbal consent was obtained from the mothers and permission was taken from the hospital. The objectives of

the study were verbally explained to the mothers and their cooperation was sought for, before commencing the administration of the questionnaires. The data collected from the respondents was only used for the purpose of this research. The questionnaires were identified with numbers, and every data collected from the participants were safely protected from a third party.

The interviews were conducted in a friendly manner that enabled participants to express what they felt about exclusive breastfeeding practices and those factors preventing the mothers from practicing exclusive breastfeeding as it should be. The study results and recommendations will be communicated properly in a way that will enhance seriousness and changes that will help in improving the practices of exclusive breastfeeding among the nursing mothers. The research posed no harm to the respondents, as no new procedure was tested. The study only investigated the practices of exclusive breastfeeding and breastfeeding initiation among the nursing mothers, the results obtained from this study was only used for the purpose of this study.

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CHAPTER FOUR

RESULTS

4.1 Socio demographic characteristics of respondents

A total of 427 nursing mothers were interviewed, only 400 nursing mothers were qualified for the research work. The mean age of respondents was 30.2 ± 4.3 years. Most (97.5%) of them were married and 77.0% were in a monogamous marriage (table 1). Secondary education was the highest level of education attained by 41.0% while 26.8% had post-secondary education. Most (90.0%) resided in the urban area and 95.8% were of the Yoruba ethnic group. The highest proportion (49.3%) of the respondents was among traders followed by civil servants (16.8%). About 65.5% were Muslims and Christians were 34.5% (table 1).

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Table 1: Respondents of Socio-demographic characteristics

	N=400	%
Age group(years)		
≤20	63	15.7
21-29	124	31
30 – 34	152	38.0
≥35	61	15.2
Marital Status		
Married	366	91.5
Divorced	8	2
Widow	6	1.5
Single	20	5
Types of marriage		
Polygamous	92	23.0
Monogamous	308	77.0
Educational status		
Primary	129	32.2
Secondary	164	41.0
Post-secondary	107	26.8
Residence		

Rural	40	10.0
Urban	360	90.0

Occupation

Full time house wife	67	16.7
Trader	197	49.2
Artisan	24	6.0
Civil servant	67	16.7
Unemployed	45	11.2

Ethnics group

Yoruba	383	95.8
Others	17	4.2

Religion

Christianity	138	34.5
Islam	262	65.5

4.2 Pregnancy and delivery history of respondents

About half (51.0%) of the respondents had at least two living children with mean number of 2.7 ± 0.8 children (table 2). A high proportion (40.0%) reported a birth interval less than or equal to twenty four months between their last two children. Most (99.5%) attended the antenatal clinic during pregnancy, among which 44.5% reported starting ANC at 12 – 24th week. Among those that reported attending antenatal clinic, 92% reported going for ANC more than or equal four times before delivery. Most (99.0%) of the respondents received health talks on breastfeeding. About 96.5% received Tetanus Toxoid Vaccine during pregnancy. Majority (78.0%) delivered in the Government health facilities followed by privates (9.5%). Most (95.5%) reported they had normal delivery of their babies.

Table 2: Respondents Pregnancy and delivery history (for the index child)

	N=400	%
Number of living children		
1	50	12.5
2	154	38.5
3	132	33.0
4+	64	16.0
Birth interval in weeks between the current child and immediate senior		
≤23	115	28.8
24 – 47	239	59.8
≥48	46	11.5
Attend antenatal clinic during pregnancy of the current child		
Yes	398	99.5
No	2	0.5
Time Commenced ANC during pregnancy of the current child		
Within 12 weeks	124	31.0
12 – 24 weeks	178	44.5

24 – 36 weeks	98	24.5
---------------	----	------

Number of times in ante-natal clinic

1- 3	34	8.0
------	----	-----

≥ 4	368	92.0
-----	-----	------

Ever received health talk on breastfeeding during antenatal clinic of the current child

Yes	396	99.0
-----	-----	------

No	4	1.0
----	---	-----

Received Tetanus Toxoid Vaccine at last pregnancy

Yes	386	96.5
-----	-----	------

No	14	3.5
----	----	-----

Place of delivery

Governmental health facilities	312	78.0
--------------------------------	-----	------

Private health facilities	38	9.5
---------------------------	----	-----

Mission houses	42	10.5
----------------	----	------

Homes	3	0.7
-------	---	-----

TBA	5	1.2
-----	---	-----

Nature of delivery

Normal	385	96.2
Operation	15	3.8

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4.3 Information on respondents' index child attending Adeoyo hospital, Ibadan

More than half (84.8%) of the respondents index children were over 90 days old, with mean age of 22.6 ± 11.0 days (Table 3). Sixty one percent of the children were males and 55.0% of the children were in the second position (birth order) from the same mother. About 99.8% of respondents' index child had been immunized with about 32.8% of them receiving the vaccine three times (table 3).

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Table 3: Socio-demographic Information on index child

	N=400	(%)
Child age (weeks)		
≤ 4	16	4.0
5 – 11	45	11.2
12 – 16	339	84.8
Birth order		
First	15	3.8
Second	205	51.3
Third	127	31.8
Fourth	53	13.2
Child sex		
Male	244	61.0
Female	156	39.0
Children immunized		
Yes	399	99.8
No	1	0.2

Number of times of vaccination	n = 399	
Once	29	7.3
Two	71	17.8
Three	131	32.8
Four	168	42.1

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4.4 Immunization history of respondents' index child

As shown in figure 1, BCG has the highest coverage (99.8%) among respondents' index children, followed by O.P.V1 (91.8%), while the least received was Hepatitis B3 vaccine (10.5%).

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Table 4: Respondent index child Immunization history

Vaccination	N=399	(%)
BCC		
Yes	398	99.7
OPV ZERO		
Yes	349	87.5
OPV 1		
Yes	367	92.0
OPV 2		
Yes	319	79.9
OPV 3		
Yes	281	70.4
PENTA 1		
Yes	44	11.0
PENTA 2		
Yes	44	11.0
PENTA 3		
Yes	211	52.9
HEP B O		
Yes	315	78.9
HEP B 1		

Yes	307	76.9
-----	-----	------

HEP B 3

Yes	42	10.5
-----	----	------

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4.5 Knowledge of exclusive breastfeeding among respondents

Almost all respondents (99.3%) had heard about exclusive breastfeeding. Most (94.3%) of the respondents knew EBF gives protection against childhood diseases followed by EBF bonds mother and child together (93.5%) while 10.8% of them knew breastfeeding should not be initiated at any time after delivery (table 5).

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Table 5: Knowledge of exclusive breastfeeding among respondents

	Yes (%)	Total (%)
Heard about Exclusive breastfeeding	397(99.2)	400 (100)
What exclusive breastfeeding is	357(89.2)	400 (100)
Initiation of breastfeeding at any time after delivery		
Initiation of breastfeeding immediately after delivery without giving any other thing	349(87.3)	400 (100)
Breastfeeding with addition of water, glucose or herb	349(87.3)	400(100)
Giving breast milk only from birth	373(93.2)	400 (100)
Feeding the child with colostrum and continuation with breast milk	366(91.5)	400(100)
Giving of grape water with breast milk immediately after birth	42(10.5)	400(100)

Is natural food that cost 298(74.5) 400(100)
necessary/unnecessary labor/stress to
the mother

Bonds mother and child together 374(93.5) 400(100)

It is time consuming and cause stress 40(10.0) 400(100)

Breast milk is not enough to satisfy 74(18.5) 400(100)
hunger and thirst

Gives protection against childhood 377(94.2) 400(100)
diseases

Causes stunted growth in babies 53(13.2) 400(100)

4.6 Knowledge level of respondents on exclusive breast feeding practice

About a third (31.5%) of the respondents had poor knowledge about exclusive breastfeeding (table 6).

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Table 6: Knowledge level of respondents on exclusive breast feeding practice

	N=400	%
Good	274	68.5
Poor	126	31.5

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4.7 Attitude of respondents towards exclusive breast feeding practice

The findings about mothers' attitude are displayed in table (4.7) which shows that a high proportion (91.0%) disagreed that breast milk is limited to a specific period. Most (95.0%) of the respondents disagreed that formula feeding is more convenient why (29.8%) agreed that one should not breastfeed in the public. However, about (89.2%) of the respondent agreed that EBF is only the ideal food for babies and a vast majority (94.2%) agreed it enhance intimacy between the mother and child.

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Table 7: Attitude of respondents towards exclusive breastfeeding practice

	Disagree (%)	Not Sure (%)	Agree (%)	Total (%)
EBF benefit is limited for a specific period	364(91.0)	10(2.5)	26(6.5)	400(100)
Formula feed babies are more likely to gain weight quickly than breastfeeding babies	375(93.8)	10(2.5)	15(3.8)	400(100)
Formula feeding is more convenient	380 (95.0)	6(1.5)	14(3.5)	400(100)
If mothers intend to resume work or leave their child behind, formula feeding is a better choice	263(65.8)	12(3.0)	125(31.2)	400(100)
Breast milk is the ideal food for babies	34(8.5)	9(2.2)	357(89.2)	400(100)
Breast feed babies are healthier than formula feed babies	111 (27.8)	21(5.2)	268(67.0)	400 (100)

Mothers should not breastfeed in public 271(67.8) 10(2.5) 119(29.8) 400(100)

Mothers who formula feed their children will miss out certain bonding experience 165(41.2) 31(7.8) 204(51.0) 400(100)

EBF can enhance intimacy between mother and child 17(4.3) 6(1.5) 377(94.2) 400(100)

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4.8 Attitude level of respondents towards exclusive breast feeding (EBF) practice

Table 8 presents attitude level of the respondents and about of 56.0% of the respondents had negative attitude towards EBF practice.

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Table 8: Attitude level of respondents towards exclusive breast feeding practice

	N=400	%
Positive	176	44.0
Negative	224	56.0

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4.9 Respondents Infant feeding practices

The proportion of respondents that gave their infants breast milk only in the last 42 hours were 69.2% those that gave between the first 24 hours after delivery were 93.5%. Also, those that have been given since birth till the time of this research were 69.2% respectively. while the least (31.5%, 6.5% and 30.7%) of them reported giving their infants breast milk and milk only in the last 72 hours, 24 hours and since birth (Table 9). About 68.2% of the respondents reported feeding their infants on demand while 31.8% reported timely feeding. Most (93.5%) of them reported feeding their infants with colostrum and 64.3% reported giving their infants expressed breast milk if stayed away for a long period of time.

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Table 9: Respondents infant feeding practices

Infant feeding practice	N =400	%
Food received by respondents index child in the last 72 hours		
Breast milk only	277	69.2
Formula	80	20
Herbs	20	5
Water	28	7
Food received by respondents index child in the first 24hrs of birth		
Breast milk only	374	93.5
Water	16	4
Herbs	10	2.5
Food received by respondents index child since birth		
Breast milk only	277	69.2
Formula	81	20.2
Herbs	18	4.5
Water	24	6
Proportion of respondents that feed their child		
On demand	273	68.2

Timed	127	31.8
-------	-----	------

Proportion of respondents that feed their child with Colostrum's

Yes

No	374	93.5
----	-----	------

	26	6.5
--	----	-----

Proportion of respondent that reported giving their child expressed breast milk if stayed away for a longer period

Yes

	257	64.3
--	-----	------

No

	1	35.7
--	---	------

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4.10. Practice level of exclusive breast feeding among respondents.

About 30.7% of the respondents had poor exclusive breastfeeding practice.(Table 10)

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Table 10: Practice level of exclusive breast feeding among respondents

	N=400	%
Practice		
Good	277	69.2
Poor	123	30.7

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4.11 Socio-demographic characteristics of respondents and exclusive breastfeeding practice

Bivariate analysis of socio – demographic characteristics and EBF practice level. As shown in table 8, types of marriage and religion were statistically significant with exclusive breastfeeding. A higher proportion (80.4%) of those in a monogamous family had good EBF practice compared to 21% of those in the polygamous family, $p= 0.03$ (Table 11). About 68.9% of respondents who were Muslim had good EBF practice compared to 30.2% of those who were Christians.

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Table 11: Respondents socio-demographic characteristics of respondents by Practice of exclusive breastfeeding

	Practice level		Total	χ^2 P- value
	Good	Poor		
Age group (years)				
≤ 29	132 (50.1)	55 (39.5)	187(100)	4.80,0.09
30 – 34	94 (36.0)	58 (41.7)	152(100)	
≥ 35	35 (13.4)	26 (18.7)	61 (100)	
Marital status				
Married	237 (90.8)	129 (92.8)	366(100)	0.47,0.49
Widow/single	24 (9.1)	10 (7.1)	34 (100)	
Types of Marriage				
Polygamous	51 (21.0)	41 (29.4)	92 (100)	5.08,0.03
Monogamous	210 (80.4)	98 (70.5)	308(100)	
Educational status				
Primary	83 (31.8)	46 (30.0)	129(100)	4.13,0.13
Secondary	100 (38.3)	64 (46.0)	164(100)	

Post	78 (29.8)	29 (20.8)	107(100)	
Residence				
Rural	27 (10.3)	13 (9.3)	40 (100)	0.09,0.75
Urban	234 (89.6)	126 (90.6)	360(100)	
Occupation				
Full time house wife	78 (29.8)	34 (24.4)	112(100)	1.95,0.58
Trader	128 (49.0)	69 (49.6)	197(100)	
Artisan	14 (5.3)	10 (7.1)	24 (100)	
Civil servant	41 (15.7)	26 (18.7)	67 (100)	
Ethnic group				
Yoruba	254 (97.3)	129 (92.8)	383(100)	4.54,0.03
Other(Hausa, Igbo)	7 (2.6)	10 (7.1)	17 (100)	
Religion				
Christianity	79 (30.2)	59 (42.4)	138(100)	5.95,0.02
Islam	182 (68.9)	80 (57.5)	262(100)	

4.12 Respondents Pregnancy and delivery History.

Bivariate analysis of pregnancy and delivery history of the respondents and EBF practice but none of the pregnancy and delivery history variables was associated with EBF practice. However, 52.1% of respondents with two children had good EBF practice compared to 34.0% of respondents with three children, ($p>0.05$). About 28.7% of those who had birth interval that was 24-47 months between their children had good EBF practice compared to those who had between ≤ 23 - ≥ 48 months (28.7%), $p>0.05$ (Table 12).

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Table 12: Respondents pregnancy and delivery History by practice of Exclusive Breastfeeding practice

	Exclusive breastfeeding practice		Total	χ^2 P- value
	Good	Poor		
Number of children				
2	136 (52.1)	68 (48.9)	204(100)	2.74,0.25
3	89 (34.0)	43 (30.9)	132 (100)	
4+	36 (13.9)	28 (20.1)	64 (100)	
Birth interval(months)				
≤ 23	75 (28.7)	40 (28.7)	115 (100)	4.15,0.13
24 - 47	162 (62.0)	77 (55.4)	239 (100)	
≥ 48	24 (9.1)	22 (15.8)	46 (100)	
Attend antenatal clinic during pregnancy				
Yes	260 (99.6)	138 (99.2)	398 (100)	1.00
No	1 (0.3)	1 (0.7)	2 (100)	
Number of times in ante-natal clinic				

1 – 3	20 (7.6)	12 (8.6)	32 (100)	0.32
≥ 4	241 (92.3)	127 (91.3)	241 (100)	
Given health talk on breastfeeding				
Yes	259 (99.6)	137 (99.2)	396 (100)	1.00
No	1 (0.3)	1 (0.7)	2(100)	
Received Tetanus Toxoid Vaccination				
Yes	253 (97.3)	133 (96.3)	386 (100)	0.76
No	7 (2.7)	5 (3.6)	12 (100)	
Place of delivery				
Governmental health facilities	203 (77.7)	109 (78.4)	312 (100)	1.81,0.41
Private health facilities	28 (10.7)	10 (7.1)	38 (100)	
Mission house/TBA/ Home	30 (11.4)	20 (14.3)	50 (100)	
Nature of delivery				
Normal	246 (94.2)	136 (97.8)	382 (100)	3.16,0.21
Operation	12 (4.5)	3 (2.1)	15 (100)	
Traditional birth attendant	3 (1.1)	0 (0.0)	3 (100)	

4.13 Relationship between demographic characteristics of respondents' index child and exclusive breastfeeding practice

A bivariate analysis of socio – demographic characteristics of the respondents' index child and respondents practice level. There was a significant association only between age of the index child and EBF practice level of the respondents. About 82.9% of respondents whose index child was $\leq 12-16$ weeks had good EBF practice compared to 5.3% of respondents whose index child were between ≤ 4 weeks old, ($p = 0.03$)(Table 13).

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Table 13: Relationship between information of respondents' index child and exclusive breastfeeding practice

	Exclusive breastfeeding practice		Total	χ^2 P- value
	Good	poor		
Age of child (weeks)				4.11,0.03
≤ 4	14 (5.3)	2 (1.4)	16 (100)	
5 – 11	31 (11.8)	14 (10.1)	45 (100)	
12 – 16	216 (82.7)	123 (88.5)	339 (100)	
Position of the child				2.15,0.34
Second	148 (56.9)	72 (51.8)	220 (100)	
Third	83 (31.8)	44 (31.7)	127 (100)	
Fourth	30 (11.4)	23 (16.5)	53 (100)	
Child sex				0.07,0.79
Male	158 (60.5)	86 (62)	244 (100)	
Female	103 (39.4)	53 (38)	156 (100)	
Child received immunization				1.0*
Yes	260 (99.6)	139 (100)	399 (100)	
No	1 (0.3)	0 (0.0)	1 (100)	

*fisher's exact

4.14 knowledge and attitudes of respondents by exclusive breastfeeding practice

There was no statistical significant relationship between knowledge and practice of EBF among the respondents ($p>0.05$). Although, about 65.9% of the respondents who were knowledgeable had good practice of EBF. Also, there was no relationship between attitude of the respondents and EBF practice ($p>0.05$). About 41.3% of the respondents with positive attitude towards EBF had good practice (table 14).

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Table 14: Knowledge and Attitude of respondents by exclusive breastfeeding practice

	Exclusive breastfeeding practice		Total	χ^2	P- value
	Good	Poor			
Knowledge of Exclusive breastfeeding					2.35,0.13
Good	172(65.9)	102 (73.3)	274 (100)		
Poor	89 (34.0)	37 (26.6)	126 (100)		
Attitude to Exclusive breastfeeding					2.09,0.15
Positive attitude	108 (41.3)	68 (48.9)	176 (100)		
Negative attitude	153 (58.6)	71 (51.0)	224 (100)		

4.15 Logistic Regression model for exclusive breastfeeding practice

The main significant predictor of EBF practices were age of index child, types of marriage, and religion (Table 15). Respondents whose index child was ≤ 4 weeks old were more likely to have good EBF practice compared to those whose index child were 12 - 16 weeks (OR=3.99, 95% CI=1.38 – 17.59). Those in a monogamous marriage were less likely to have good EBF practice compared to those in a polygamous marriage (OR=0.5, 95% CI=0.3 – 0.8). Respondents who practiced Christianity were less likely to have good EBF practice compared to those were Muslims (OR= 0.5; 95% CI = 0.3 – 0.9).

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Table 15: Logistic Regression model for exclusive breastfeeding practice

Characteristics	Adjusted Odds ratio	95% Confidence interval		P-value
		Lower	Upper	
Age of child (weeks)				
≤ 4				
5 – 11	3.99	1.38	17.59	0.02
12 – 16 (ref)	1.98	1.47	7.23	0.001*
	1	1	1	1
Types of marriage				
Polygamous	0.5	0.3	0.8	0.01*
Monogamous (ref)	1	1	1	1
Religion				
Christianity	0.5	0.3	0.8	0.01*
Islam (ref)	1	1	1	1
Ethnicity				
Yoruba	2.7	0.9	7.5	0.06
Other	1	1	1	

* Significant at p<0.05

CHAPTER FIVE

DISCUSSION

In the study of exclusive breastfeeding practice among nursing mothers who attend Adeoyo state hospital, Ibadan, the findings has it that 69.2% of the respondents that practice exclusive breastfeeding from birth to the time of participating in this research know that exclusive breastfeeding is the major tools for child survival as malnutrition remains a major public health problem. Exclusive breastfeeding remains a major issue of discussion especially in the developing countries as panacea to preventing child hood diseases and as major tool to maintain healthy living for under – five children and their mothers. However, research on its knowledge and practice is a continuous work and the knowledge and practice is highly encouraged among the respondents.

5.1 Socio – demographic characteristics

The findings in this study shows that EBF is universally accepted my mothers. The exclusive breastfeeding rate was found to be 69.2%.The practice was high compared to 17% recorded by Nigeria in the Nigerian Demographic and health Survey 2008.And equally higher than figures obtained in the other studies of Olawuyi J.A, Onadeko M.O and Iliyasu Z. Kabir M, Abubakar I.S, Galadima M.A. In contrast to the EBF rate obtained in this study, Oche M.O, Umar A.S in a separate study obtain EBF rate of 79%.The high rate obtained in this study may not be unconnected with the fact that the sample population are higher in number. Also, the study discovered that 95.5% of the respondents with normal deliveries initiated breastfeeding within 24hours of birth, which is similar to what was recorded in (International Breast feeding Journal, 2009)and higher than 53% recorded by M.O Oche and A.S Umar and H Ahmed Africa Health Science 2011.

Maternal education is related to knowledge of good EBF practice. Female education has severally been described as one of the strongest determinants of the practice of EBF. In our study, education of the respondents had no influence on the practice of EBF as there was no statistically significant difference between the levels of education with regards to the practice of EBF. Although, 112 housewives compared to 67 civil servants practiced EBF, this was found not to be statistically significant ($p=0.096$). This is in contrast to another study in the same study area where the authors opined that the high

rate of EBF by the mothers could be attributed to their being full time housewives and therefore they had enough time to practice EBF. Here; it is obtained that higher exclusive breastfeeding mothers were found in all level of occupational population.

5.2 Pregnancy and delivery history of respondents

This study revealed that almost half (51.3%) of the mothers had at least two children as at the time of this study. This finding was different from what was obtained from a study by Obilade T.T (2015) where only 24.6% of the mothers reported to have at least two children.

This study also found that 59.8% of the mothers reported to have given between 24 to 47 months birth interval between the previous child and the index child.

Most nursing mothers attributed their awareness of exclusive breastfeeding to improved publicity given nowadays to exclusive breastfeeding practice. In addition health workers in government and private hospitals have stepped up health education to women of child bearing age group whenever and wherever they come across them.

This study confirmed that antenatal clinics attendance by women while pregnant remained an avenue in getting information on breastfeeding across to the mothers (Iliyasu et al, 2005) as almost all (99.5%) the interviewed mothers reported to have attended antenatal clinics while pregnant for their last child and about 92% had up to four antenatal visits before their delivery (table 2). This was in consonance with the previous study by Ukegbu, Aebenebe, Ukegbu and Onyeonoro 2011.

5.3 Knowledge on exclusive breastfeeding among respondents

Most of the mothers (68.5%) in this study were knowledgeable about exclusive breastfeeding. However, this was lower compared to the knowledge level recorded in other studies (Ukegbu, Ebenebe, Ukegbu and Onyeonoro (2011) recorded (91.2%) and (97.3%) was recorded by Fatiregun and Abegunde (2007). This occurred due to the facts that the mothers had secondary education with the fact that almost all the mothers attended antenatal. A high (93.2%) proportion of the mothers were able to define exclusive breastfeeding correctly. This was in line to what was obtained from other researches

(Ogbonna and Daboer, 2007 and Uchendu et al, 2009). However, this was an improvement to the estimate (42%) from a study by Aniekan et. al. (2014). Initiation of breastfeeding is important to the health of infants and their survival (Mikiel-Kostyra et al, 2002). Over eighty percent of the respondents in this study knew exclusive breastfeeding as an initiation of breastfeeding after delivery without giving any other thing for the first 6 months of life with addition of supplementary feeding up to 2years of age

5.4 Attitude of respondents towards exclusive breastfeeding

Despite the good knowledge had by the respondents this should have resulted into positive attitude, but this study shows the attitudinal disposition of few mothers as 32% towards EBF which was negative. The stress, believes and taboo hinders most mothers from breastfeeding exclusively (Okolie Uchenna 2012). But it is noted in this study that the attitudes of mothers towards assertion that babies who were exclusively breastfed grows healthier than formula fed babies (Table 7) was in agreement with finding from a study by Singh (2010).

5.5 Infant feeding practices of the respondents

Prevalence (69.2%) of exclusive breastfeeding practice obtained in this study was high compared to national estimate of 13% in the 2013 NDHS (National Demographic and Health Survey Nigeria) and other Nigerian studies (Iliyasu et al, 2005 and Oche et al, 2011). This was also different from what was obtained in a study by Alade et. al. (2013) in a rural area in the south western part of Nigeria and similar studies in other countries (Ludvigsson et al, 2003, Millar and Maclean (2005), Tan et al, 2009, Madhu, et al, 2009, and Olang et al, 2009).

Practice of exclusive breastfeeding in this study was based on three points, mothers that initiated breastfeeding within 24hrs after birth(93.5%),then those that has been given breast milk since birth(69.2),while those that gave in the last 72hrs was (69.2).This was used to know the actual numbers of mothers that are breastfeeding exclusively. In this study 69.2% of exclusive breastfeeding practice obtained was high. This was different

from what was obtain in the study of (Oche, Umar and Ahmed 2011) which stated that only 17% of children younger than 0-6months were being breastfed exclusively.

Multiple logistic regressions revealed that there were significant relationship between type of marriage and age of index child. Respondents with polygamous family setting were less likely to practice exclusive breastfeeding as a result of low quality and quantity of breast milk production thereby making it impossible for mothers to cope with breast feeding demand. In addition, respondents with infant less than or equal to four month old were more likely to practice exclusive breastfeeding than mothers with older children. Lawoyin et al, 2001 and salami, 2006 in their different studies from Edo and Oyo states in Nigeria affirmed this finding.

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CONCLUSION

From the research conducted at Adeoyo State Hospital, Ibadan among the nursing mothers. It has been observed that higher percentages (69.2%) of the mothers had a good knowledge, positive attitude and good practices of breast feeding exclusively. However EBF is still influenced by factors such as healthcare systems and social support.

Despite the fact that prevalence of exclusive breast feeding at birth reaches a high level of 93.5% only 69.2% progresses till the time of this study. It was also discovered from this study that failure to practice exclusive breast feeding method came as a result of mother's illness, child refusal, and timing of breast feeding, avoidance of stress, customs, belief and taboos.

The predictive factors for breast feeding exclusively are religion, education, profession, and number of children. Age and ethnic group have no significant association with knowledge that breast milk was essential.

According to this study, it was observed that 69.2% of respondents had good practice, this was based on those who initiated breast feeding immediately after birth, those who have been breast feeding since birth till the time of this study and those who breast fed in the last 72hours.

RECOMMENDATION

For further studies, it will be helpful to expand this study and include non-breastfeeding mothers to calculate the rate of breastfeeding in the area and to find the factors that encourage breastfeeding practice. Also, a comparison between breastfeeding mothers and non-breastfeeding mothers can be made. Including non-breastfeeding mothers in this type of study may enhance their awareness and encourage all mothers to breastfeed.

The gap between knowledge and practice of EBF and adoption of better EBF practices can be bridged by combined effort of the individual mother, the husband, the parents and religious bodies, the health workers and the government. Effort can be made at all health care facilities to educate mothers on exclusive breast feeding at every contact mothers make with the clinic staff. There is also need to institute intervention measures aimed at increasing EBF practice. Finally myth surrounding breastfeeding should be respectfully debunked.

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MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

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the Honorable Commissioner quoting

Our Ref. No. AD 13/ 479/ 9/36

August, 2015

The Principal Investigator,
Department of Epidemiology and Medical Statistics,
Faculty of Public Health,
College of Medicine,
University of Ibadan,
Ibadan.

Attention: Aisiri Mobolaji

ETHICAL APPROVAL FOR THE IMPLEMENTATION OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Practice of Exclusive Breastfeeding among Nursing Mothers Attending Adeoyo Hospital, Yemetu, Ibadan." has been reviewed by the Oyo state Review Ethical Committees.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.

Signature & Date

Sola Akande (Dr)
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethical Review Committee

QUESTIONNAIRE

My name is Aisiri Mobolaji Oluwakemi, a post – graduate student from the Department of Epidemiology, Medical statistic and Environmental Health, Faculty of Public Health, University of Ibadan, in partial fulfillment for the award of Master’s Degree in Field Epidemiology. I am conducting a study to investigate the order of birth and breastfeeding initiation and practice among women that are currently breastfeeding of children less than one year therefore, I request your participation in this study because it would contribute to achieving the objectives of the study without necessarily causing any harm of whatsoever on you.

You have the right to consent or decline to participate in this study

Thank you.

M.O Aisiri

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SERIAL NUMBER.....

Please tick the appropriate answer

SECTION A : SOCIAL DEMOGRAPHIC CHARATERISTICS

MOTHER'S VITAL INFORMATION

1. Your Age (years).....
2. Marital Status (1) Single (2) Married (3) Divorce (4) Widow
3. Type of marriage [1] polygamous [2] Monogamous
4. Educational level. (1) None (2) Primary (3) Secondary (4) Tertiary (5) Post Tertiary
5. Residence (1) Rural (2) Urban
6. Occupation.(1) Full time house wife (2) Trader (3) Artisan (4) Civil servant (5) Farmer
7. Ethnic Group. (1) Yoruba (2) Igbo (3) Hausa/Fulani (4) Others, Specify.....
8. Religion. (1) Christianity (2) Islamic (3) Traditional (4) Other, Specify.....
9. How many Children do you have?.....

SECTION B: PREGNANCY AND DELIVERY HISTORY

10. What is the parity status?
11. What is the birth interval between this current child and the child before him/her
12. Did you attend any ante-natal clinic during the pregnancy of the current child?(1)Yes
(2)No
13. If No, State the reason(s)
14. When did you start ante-natal clinic? (1)Within 12weeks of pregnancy (2)At 24weeks
(3)Between 24 -36weeks
15. How many times did you visit ante-natal clinic.....
16. Were you given health talk on breastfeeding during ante natal clinic?

17. Did you receive T.T vaccination during pregnancy? (1)Yes (2)No (3)I don't know.

18. If Yes, how many times did you receive T.T vaccination?(1)Once(2)Twice(3)I don't know.

19. If No, state reason(s)

20. Where did you deliver your child? (1)Government health facilities (2) Private health facilities (3) Mission house (4) Home/ T.B.A

21. What's the nature of your delivery? (1)Normal delivery (2) Operation (3) Traditional birth attendant.

SECTION C : CHILD'S VITAL INFORMATION

22. How old is your child?..... Indicate in (1] Days (2] Weeks (3) Month.

23. What is the position of birth of this child among your own children.(1)First (2) Second (3) Third (4) Fourth (5) others/specify

24. What is your child sex? (1)Male (2) Female

25. Has your child receive any immunization? (1)Yes(2)No

26. If No, state reason

27. How many times has your child received vaccination? (1)Once (2) Twice (3) Three (4) Four (5) Five (6) I don't know

28. What type of vaccination has your child received?

VACCINES	YES	NO
B.C.G		
D.P.V 0		
D.P.V 1		
D.P.V 2		
D.P.V 3		
D.P.T1		
D.P.T2		

D.P.T3		
PENTA1		
PENTA2		
PENTA3		
HEP B0		
HEPB2		
HEP B3		

SECTION D: CURRENT INFANT FEEDING PRACTICES BY MOTHER

TICK AS INDICATED.

29. Are you breastfeeding this child currently. (1)Yes (2) No
30. Is your child responding well to breastfeeding? (1)Yes (2) No
31. Did you give water when you notice that the child is thirsty? (1)Yes (2) No
32. What did you give to this child in the last 72hours.(1)Water only (2)Herb[Agbo] (3)Breast milk (4)Water with Glucose (5)Baby Formular (6)Milk
33. What type of food did you feed your child with within 24hrs of birth?(1)Water only (2)Water with Glucose (3)Herb(Agbo) (4)Baby formula (5)Breast milk (6)Breast milk with water (7)Milk (8)Nothing.
34. Within 72hrs of birth, which of this food did you give to this child?(1)S.M.A Baby food (2)Breast milk with water (3)Glucose with water (4)Herbs(Agbo) (5)Breast milk (6)PAP with milk (7)Milk only (8)Nothing.
35. How often do you feed this child with breast milk?(1)On demand (2)Timed (3)When necessary.
36. Did you practice expressed breast milk feeding.(1)Yes (2)No
37. What is given to your child when you are not around.(1) Expressed breast milk (2)Formula (3)Water
38. Did you feed this child with colostrum (first milk)? (1)Yes (2) No
39. If No, state reasons
40. Is your child responding well to the feeding? (1)Yes(2)No

41. When did you stop breast feeding?(a) Within 1 month (2) 2-3 months (3) 3-4 months.
42. Why did you stop the exclusively breast feeding?(a) Due to ill health (b) pressure from in-laws (c) Not satisfied with the practice.
43. Are you satisfied with your child feeding practice? (1) Yes (2) No
44. If No/Yes, state reasons
45. If you have to stay away from your baby for a long period, what food will you make available for the baby? (1) Formula food (2) Glucose water (3) Herbal water (4) Expressed breast milk (5) water only.

SECTION E: MOTHER'S KNOWLEDGE ABOUT EXCLUSIVE BREAST FEEDING

46. Have you heard about exclusive breast feeding? (1) Yes (2) No
47. Have you ever practiced exclusive breastfeeding before? (1) Yes (2) No
48. Where did you learn about exclusive breastfeeding?(1) Government Hospital {YES}{NO} (2) Neighbor/friends/relatives {YES}{NO} (3) Media(T.V, Radio, News paper){YES}{NO} (4) Mission Hospital {YES}{NO} (5) Private Hospital {YES}{NO}
49. What is exclusive breast feeding?
1. Initiation of breast feeding at any time after delivery, (YES)(NO)
 2. Initiation of breast feeding immediately after delivery without giving any other thing such as water; herbs; Glucose water e.t.c. (YES)(NO)
 3. Breast feeding with addition of water, Glucose, or herb, (YES)(NO)
 4. Giving breast milk only from birth. (YES)(NO)
 5. Feeding the child with colostrum [first milk] and continuation with breastmilk (YES)(NO)
 6. Giving of gripe water with breastmilk immediately after birth. (YES)(NO)
50. Has the information really helped you? (1) Yes (2) No
51. The following are true about exclusive breastfeeding.

1. it's a natural food that cost no money or unnecessary labour/stress to the mother (1) Yes (2) No

2. It bonds the mother and the child together (1) Yes (2) No

3. It is time consuming and cause stress (1) Yes (2) No

4. Breast milk is not enough to satisfy hunger and thirsty (1) Yes (2) No

5. It gives protection against childhood diseases. (1)Yes (2) No

6. It causes stunted growth in babies. (1)Yes (2) No.

52. Would you like to learn more about exclusive breast feeding if offered? (1)Yes (2) No

SECTION F: MOTHER'S ATTITUDE TOWARDS EXCLUSIVE BREAST FEEDING

53. Exclusive breast feeding only is adequate in the first six month? (1)Agree (2) Disagree (3) Not sure.

54. Exclusive breast feeding serve as immunity to the child for the first six month of life.(1)Agree (2) Disagree (3)Not sure.

55. Exclusive breast feeding babies, grow healthier than formula fed babies. (1) Agree (2) Disagree (3) Not Sure.

56. Exclusive breast feeding is time consuming and more demanding. (1)Agree(2)Disagree (3)Not Sure.

57. First Milk (colostrum) should be given to infant. (1)Agree (2)Disagree (3) Not sure

58. Babies should be given other fluids e.g. water, glucose water e.t.c before putting them to breast? (1)Agree (2) Disagree(3)Not Sure

59. Mother's can breast feed exclusively even at work .(1)Agree(2) Disagree (3)Not sure

60. Exclusive breast feeding also help mother maintain good body and breast shape. (1)Agree (2) Disagree (3) Not sure

61. Exclusive breast feeding bonds mother and child together. (1)Agree (2) Disagree

62. Exclusive breast feeding is naturally available without any cost. (1)Agree (2) Disagree (3) Not sure.