A SURVEY OF FACTORS AFFECTING INFANT FEEDING PRACTICES AMONG WOMEN OF REPRODUCTIVE AGE AT ADEOYO MATERNITY HOSPITAL, YEMETU, IBADAN NORTH LOCAL GOVERNMENT

IGENE OSEME MARGARET

(M. Sc Epidemiology)

Matric No.: 168670

A SURVEY OF FACTORS AFFECTING INFANT FEEDING PRACTICES AMONG WOMEN OF REPRODUCTIVE AGE AT ADEOYO MATERNITY HOSPITAL, YEMETU, IBADAN NORTH LOCAL GOVERNMENT

IGENE OSEME MARGARET

(M. Sc Epidemiology)

Matric No.: 168670

A SURVEY OF FACTORS AFFECTING INFANT FEEDING PRACTICES AMONG WOMEN OF REPRODUCTIVE AGE AT ADEOYO MATERNITY HOSPITAL, YEMETU, IBADAN NORTH LOCAL GOVERNMENT

BY

IGENE OSEME MARGARET

(M. Sc. Epidemiology)

Matric No.: 168670

A Project Of Epidemiology And Medical Statistic, Submitted To The Faculty Of Public Health In Partial Fulfillment Of The Requirements For The Award Of Masters Of Science Degree In Epidemiology

APRIL 2014

Acknowledgement

Firstly, I will like to appreciate my whole family for their moral and financial support throughout my master's programme and in the journey of my project.

My thanks go to Dr. M. D. Dairo my supervisor for his help and assistance all the way through the stages of my project work. I also want to thank Wale Adejugbagbe for his assistance that helped set my focus in the right direction. I also thank Yomi Ayinde for his assistance during the course of this project. I also want to appreciate Mr. Alebiosu Ezekiel O. for his moral and financial support through the years.

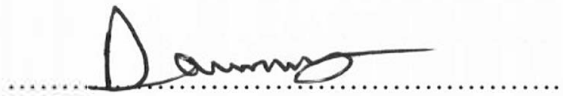
Finally, my deepest gratitude goes to my parents Pastor James and Dcns. Maria Igene and my fiancé Ehimen Arthur Kelly for their kind support, understanding and encouragement throughout my study period. Without their support, I will not finish the course successfully.

Dedication

To God Almighty, for giving me life and the grace to complete this work. To whom, without Him, I'll be nothing.

Certification Page

I certify that this work was carried out by Miss. Igene Oseme Margaret in the Department of Epidemiology and Medical Statistics, University of Ibadan



Supervisor

Dr. M. D. Dairo

Department of Epidemiology and Medical Statistics, University of Ibadan, Nigeria

TABLE OF CONTENTS

ACKNOWLEDGEMENT ii

DEDICATION iii

CERTIFICATION iv

TABLE OF CONTENTS v

LIST OF TABLES ix

LIST OF FIGURES x

LIST OF ABBREVIATIONS xi

APPENDICES xii

ABSTRACT xiii

CHAPTER ONE 1

INTRODUCTION 1

1.0 Background of the study 1

1.1 Duration of Breast Feeding 2

1.2 Duration of Exclusive Breast Feeding 3

1.3 Importance of Breastfeeding 5

1.4 Challenges to Breastfeeding 10

1.5 Problem Statement 13

1.6 Justifications 14

1.7 Research Questions- 15

1.8 Objectives; 15

1.8.1 Broad Objective 15

1.8.2 Specific Objectives 15

CHAPTER TWO 16

LITERATURE REVIEW 16

2.1 Concept of breast feeding 16

2.2 Exclusive breast feeding: definition and concept..... 17

2.3 Benefits of exclusive breast feeding..... 18

2.4 Knowledge of exclusive breast feeding among mothers..... 19

2.5 Practice of breastfeeding among nursing mothers..... 20

2.6 Determinants of exclusive breast feeding practice among nursing mothers..... 22

2.7 Hindrances to the practice of exclusive breast feeding..... 23

2.8 Demographic Factors and duration of breast-feeding..... 25

2.9 Socioeconomic Factors and Duration of Breast-feeding..... 30

2.10 Health Service Factors and duration of breast-feeding..... 35

2.11 Conceptual Framework..... 39

2.12 Strategies towards promotion of exclusive breast feeding..... 41

CHAPTER THREE 43

METHODOLOGY 43

3.1 Research Design and Source of Data 43

3.1.1 Study Area..... 43

3.1.2 Study Population 43

3.1.2.1 Inclusion criteria 43

3.1.2.2 Exclusion criteria..... 43

3.1.3 Study Design..... 44

3.1.4 Sample Size 44

3.1.5 Data CollectionInstrument..... 45

3.2 Operational Definitions of Variables 45

3.2.1 Independent Variables 45

3.2.2 Dependent Variable 47

2.1 Concept of breast feeding 16
2.2 Exclusive breast feeding: definition and concept..... 17
2.3 Benefits of exclusive breast feeding..... 18
2.4 Knowledge of exclusive breast feeding among mothers..... 19
2.5 Practice of breastfeeding among nursing mothers..... 20
2.6 Determinants of exclusive breast feeding practice among nursing mothers..... 22
2.7 Hindrances to the practice of exclusive breast feeding..... 23
2.8 Demographic Factors and duration of breast-feeding..... 25
2.9 Socioeconomic Factors and Duration of Breast-feeding..... 30
2.10 Health Service Factors and duration of breast-feeding..... 35
2.11 Conceptual Framework..... 39
2.12 Strategies towards promotion of exclusive breast feeding..... 41
CHAPTER THREE 43
METHODOLOGY 43
3.1 Research Design and Source of Data 43
3.1.1 Study Area..... 43
3.1.2 Study Population 43
3.1.2.1 Inclusion criteria 43
3.1.2.2 Exclusion criteria..... 43
3.1.3 Study Design..... 44
3.1.4 Sample Size 44
3.1.5 Data CollectionInstrument..... 45
3.2 Operational Definitions of Variables 45
3.2.1 Independent Variables 45
3.2.2 Dependent Variable 47

3.3 Training of Research Assistants 47

3.4 Procedure of Collecting Data 48

3.5 Data Processing and Analysis 48

3.6 Ethical Consideration 49

3.6.1 Confidentiality of the data 49

3.6.2 Beneficence to patients..... 49

3.6.3 NonMaleficence of patients 49

3.6.4 Translation of protocols 49

3.6.5 Voluntariness 50

3.7 Study Limitations 50

CHAPTER FOUR..... 51

RESULTS 51

4.1 Univariate Analysis..... 51

4.1.1 Description of sample women by demographic factors 51

4.1.2 Description of sample women by socioeconomic factors..... 53

4.1.3 Description of sample women by health service factors..... 54

4.1.4 Description of Ever and never breastfed women by demographic factors... 55

4.1.5 Description of Ever and never breastfed women by socioeconomic factor...57

4.1.6 Description of Ever and never breastfed women by health service factors... 58

4.1.7 Initiation of breast-feeding..... 59

4.1.8 Duration of breast-feeding..... 63

4.1.9 Duration of total breastfeeding by mode of delivery..... 67

4.1.10 Introduction of supplementary foods..... 68

4.1.11 Awareness, Knowledge and Practiceof Exclusive Breastfeeding..... 71

4.1.12 Frequency Distribution of Nursing Mother Attitude towards

BreastfeedingPractices..... 74
4.2 Bivariate Analysis..... 77
4.2.1 Relationship between Duration of Breastfeeding and Selected Characteristics..77
4.2.2 Relationship between Exclusive Breastfeeding Practice and Selected Characteristics..... 80
4.2.2.1 Relationship between demographic factors and exclusive breastfeeding practice..... 80
4.2.2.2 Relationship between socioeconomic factors and exclusive breastfeeding practice..... 82
4.2.2.3 Relationship between health service factors and exclusive breastfeeding practice..... 83
4.3. Regression Analysis..... 84
4.3.1 Multiple Logistic Regression of duration of breastfeeding on selected characteristics.....84
4.3.2 Logistic Regression of exclusive breastfeeding practice on selected characteristics..... 85
CHAPTER FIVE..... 87
DISCUSSION 87
5.1 Conclusion..... 95
5.2 Recommendations..... 95
5.2.1 Recommendations for policy implication..... 95
5.2.2 Recommendations for future research..... 96
REFERENCES 97

LIST OF TABLES

Table 4.1.1: Distribution of Sample Women by selected characteristics..... 53

\Table 4.1.2: Distribution of women who had breastfed children 56

Table 4.1.3.1: Timing of initiation of breastfeeding 57

Table 4.1.3.2: Timing of initiation of breastfeeding by selected characteristics 58

Table 4.1.4: Duration of breast-feeding by health service factors.....61

Table 4.1.5: Timing of Introduction of complementary feeding by selected variables.....64

Table 4.1.6: Awareness, Knowledge and Practice of Exclusive Breastfeeding..... 66

Table 4.1.7: Frequency Distribution of Nursing Mother Attitude towards Breastfeeding Practices.....69

Table 4.2.1: Relationship between duration of breastfeeding and selected characteristics 71

Table 4.2.2: Relationship between exclusive breast-feeding and selected characteristics ...74

Table 4.3.1: Multiple Logistic Regression of duration of breastfeeding 75

Table 4.3.2: Logistic Regression of variables influencing breastfeeding exclusively.....77

LIST OF FIGURES

Figure 1: Conceptual framework 40

LIST OF ABBREVIATIONS

EBF	-	Exclusive Breastfeeding
WHO	-	World Health Organization
UNICEF	-	United Nations International Children's Emergency Fund
WHS	-	World Fertility Survey
DHS	-	Demographic and Health Survey
NDHS	-	Nigerian Demographic Health Survey
CS	-	Caesarean Section

APPENDICES

8.1 Appendix 1: Consent Form (English Version) 109

8.2 Appendix 2: FunIfowosiFọọmù (Yoruba Version) 110

8.3 Appendix 3: Questionnaire (English Version) 113

8.4 Appendix 4: Questionnaire (Yoruba Version) 121

8.6 Appendix 6: Ethical clearance for the study..... 129

Abstract

This study examined factors affecting infant breastfeeding practices among women of reproductive age at Adeoyo maternity hospital, Yemetu, Ibadan North Local Government. Women of reproductive age (15 – 49 years) were selected for the study. The sample consisted of 403 women. In the study both descriptive and analytical statistics was used. Descriptive statistics revealed a general pattern. 98.3% of the sample women had ever breastfed their index children. About 73% of them initiated breastfeeding immediately after delivery. Mean duration of breastfeeding was found to be 18.9 months. Almost 51% of the sample women introduced complementary feeding at 6 months. To analyse the factors affecting duration of breastfeeding and exclusive breastfeeding practices, 13 variables were selected and they were grouped into demographic (age of mother, parity, birth order, sex of child and age at first birth), socioeconomic (mother's education, father's education, mother's occupation and father's occupation), and health service factors (no. of antenatal visit, place of delivery, mode of delivery and advice on breastfeeding). Both bivariate and multivariate statistics were employed for analysis. For duration of breastfeeding, only 3 variables were significant in bivariate analysis using Chi-square test while for exclusive breastfeeding practices, 4 variables showed significant association. However, after using multiple regression to determine the effect of these independent variables, parity showed significant association with duration of breastfeeding, while holding other variables constant and age of mother, parity and women's education were a determinant of exclusive breastfeeding practice in this local government.

CHAPTER ONE

INTRODUCTION

Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breast (i.e., via lactation) rather than from a baby bottle or other container. Babies have a suckling reflex that enables them to suck and swallow milk (Picciano M., 2001)

1.0 Background of the study

Breast feeding is known to be the best way to feed infant by providing the psychological and health benefit to both the mother and child. It is therefore considered physiologically, biochemically, immunologically and psychologically suited for this (UNICEF 1992)

Every day, as many as 4,000 infants and young children die worldwide because they are not breastfed. According to United Nations Children's Fund (UNICEF), it is because their mothers are not empowered with adequate knowledge about breast-feeding and do not receive enough motivation and support (UNICEF, 1994). Whereas, babies, their mothers, their families, their community, their environment, even the economy of the country in which they live, all benefit from breast-feeding (UNICEF, 1994).

There is a universal consensus about the fundamental importance of breastfeeding for children's adequate growth and development and for their physical and mental health. Breastfeeding, particularly exclusive breastfeeding, and appropriate complementary feeding practices are universally accepted as essential elements for the satisfactory growth and development of infants as well as for prevention of childhood illness. This has culminated in a publication by the World Health Organization (WHO) recommending that infants up to 6 months of age should be exclusively breastfed (WHO, 1998).

CHAPTER ONE

INTRODUCTION

Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breast (i.e., via lactation) rather than from a baby bottle or other container. Babies have a suckling reflex that enables them to suck and swallow milk (Picciano M., 2001)

1.0 Background of the study

Breast feeding is known to be the best way to feed infant by providing the psychological and health benefit to both the mother and child. It is therefore considered physiologically, biochemically, immunologically and psychologically suited for this (UNICEF 1992)

Every day, as many as 4,000 infants and young children die worldwide because they are not breastfed. According to United Nations Children's Fund (UNICEF), it is because their mothers are not empowered with adequate knowledge about breast-feeding and do not receive enough motivation and support (UNICEF, 1994). Whereas, babies, their mothers, their families, their community, their environment, even the economy of the country in which they live, all benefit from breast-feeding (UNICEF, 1994).

There is a universal consensus about the fundamental importance of breastfeeding for children's adequate growth and development and for their physical and mental health. Breastfeeding, particularly exclusive breastfeeding, and appropriate complementary feeding practices are universally accepted as essential elements for the satisfactory growth and development of infants as well as for prevention of childhood illness. This has culminated in a publication by the World Health Organization (WHO) recommending that infants up to 6 months of age should be exclusively breastfed (WHO, 1998).

Solid food should be introduced when the baby is 6 months old but a baby should drink breast milk for a full year or more as human milk contains just the right amount of nutrients for the development and growth of the child (UNICEF 1992).

1.1 Duration of Breast Feeding

It has been observed that breast feeding duration varies from one country or geographic region to another. Study in Eldoret District Hospital, Kenya by Esmai et al found only 32% who breast fed their children up to 2 years, 33% up to 12 months and 13% stopping at 6 month (Esmai and Songa, J., 1994).

In Bangkok and Bogota, the median duration for lactation was less than 7 months. Nairobi exhibited a longer duration of 16 months and in Semarang, median duration was 20 months (Beverly W. and Virginia. H. L., 1989). In Latin America and the Caribbean, only 35% to 60% of their children continue being breast fed up to an age of 6 month (Rudriguez G., Scchaefer, R., and Nuevos, L. 1991) and within Latin America, in Mexico, frequency of breast feeding has declined notably. A study by Maria et al showed only 34.8% of the study infant breast fed for not more than 1month (Maria et al, 1993).

Based on data from World fertility Survey (WFS) and Demographic and Health Survey (DHS) conducted in 47 countries before 1990, it was found that average duration of breast-feeding was 18.3 months in Africa and 17.2 months in Asia and the Pacific but it was only 9.5 months in Latin America and the Caribbean (Witwer M., 1993).

The 2008 Demographic and Health Survey in Nigeria showed that the median breastfeeding duration in Nigeria is 18.1 months and on the other hand, the median duration for exclusive

breastfeeding is only for half a month. Only 13 percent of babies were exclusively breastfed throughout the first six months of their life. (NDHS, 2008)

According to WHO, "The vast majority of mothers can and should breastfeed, just as the vast majority of infants can and should be breastfed. Only under exceptional circumstances can a mother's milk be considered unsuitable for her infant. For those few health situations where infants cannot, or should not, be breastfed, the choice of the best alternative–expressed breast milk from an infant's own mother, breast milk from a healthy wet-nurse or a human-milk bank, or a breast-milk substitute fed with a cup, which is a safer method than a feeding bottle and teat–depends on individual circumstances" (WHO, 2003).

1.2 Duration of Exclusive Breast Feeding

Although, breast feeding practices has declined world-wide, exclusive breast feeding does not even seem to be the norm in any part of the world either. 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 (Suharyono P., 1997). And babies given cow's milk and formula early in their lives has over 60% more risk of being malnourished (Robert P., 1990).

As stated earlier, exclusive breast feeding for 6 month is very important and it is sufficient for every child.

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 (Ferreira et al, 1996). In Malaysia, however, the results are no better as only 25% of

babies are breast fed exclusively at 2 months(Ferreira et al, 1996). In westernised cities of Bogota and Bankok, 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, about 42.0% of babies were exclusively breast fed for 2 months (Beverly W. and Virginia. H. L., 1989).

Studies carried out between, 1996-2004 showed that considerable variation exists across regions East Asia/Pacific and Eastern/Southern Africa are the regions with the highest levels of exclusive breastfeeding in the first six months of life, while CEE/CIS and West/Central Africa have the lowest levels. The highest rates are currently found in East Asia/Pacific (43 per cent) and Eastern/Southern Africa (41 per cent), and the lowest in West/Central Africa (20 per cent) (Beverly W. and Virginia. H. L., 1989)

In sub-Saharan Africa, proportion of those breastfeeding exclusively up to 6 months in Ghana was below 32% (Population Reference Bureau, 1999) compared to Nigeria, Reports show that only about one in ten (13%) infants below 6 months of age are exclusively breastfed. (NDHS 2008).This figure is woefully below the WHO/UNICEF's aim of achieving 75% and above exclusive breastfeeding in sub- Saharan Africa.

The WHO recommends exclusive breastfeeding 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"(WHO, 2003).

1.3 Importance of Breastfeeding

A healthy start in life is the most precious gift one can give to a new born child. Breast milk can make the difference between healthy growth and malnutrition, between life and death. When it comes to nutrition, the best first food for babies is breast milk.

A study has demonstrated breast feeding reduces risk of respiratory illness in infant both in terms of duration and severity (Cushing A.H, Samet J.M, et al, 1998). Not only does it reduce respiratory tract infection but it is also associated with lower rates of varieties of infant illness at the community level (Wright A.L., Bauer M., Naylor A.A., et al, 1998).

Several studies have also shown a modest beneficial effect of breast feeding on cognitive development after controlling for socio demographic confounders (Richard M., Wadsworth M., Rahimi F.A, et al, 1998). Frequent breast feeding and in low birth weight infants resulted in fewer neonatal complication (Furman L., Minich N.M., and Hack M., 1998).

The constituents of breast milk such as fat, vitamins, minerals and iron are ideal for the newborn's nutritional needs up to six months (Shah, I.H and Khanna, J., 1990). In communities with a high prevalence of malnutrition, breast-feeding may enhance child survival up to 3 years of age (Briend, A., Wojtynaik, B. and Rowland, M.G.M, 1988).

In addition to its nutritive value, breast milk also has protective action against common infections (Grant J.P, 1991). It contains many immunological factors, which protect infections of gastrointestinal tract, allergies, certain metabolic and other diseases. "Colostrum", the milk secreted during the first five post-partum period, contains a high level of secretory immunoglobulin A (SIgA) and lactoferrin which has anti-infective property. SIgA can resist the proteolytic digestion in the gut and limit the multiplication of pathogens in the gut and thus preventing the newborn from diarrhoea (Shah, I.H and Khanna, J., 1990).

Research shows that breast-feeding can save the lives of over 1,500,000 babies who die every year from diseases such as diarrhoea and pneumonia. Breastfed babies have stronger immune systems and are healthier than bottle-fed babies (UNICEF, 1994). This anti-infective property of breast milk is substantial especially in countries with a moderate or high infant mortality rate. In such countries, artificially fed infants are at least 14 times more likely to die from diarrhoea and 4 times more likely to die from pneumonia than breastfed infants (Lancet, 1994).

Exclusive breastfeeding practise has resulted in an overall decrease in infant morbidity and hospitalisation rates (Akre J, 1989). However, statistics indicate that most mothers do not practise optimal breastfeeding, and EBF for the first 6 months of age is a rare practice in a number of countries (Akre J, 1989 & UNICEF 2005)

The anti-infective properties of breast milk are particularly important for infant and child health in most countries of the tropical region where rapid bacterial multiplication takes place due to warm weather. Moreover, in such countries, babies are born to mothers who are living in poor hygienic environment due to inadequate access to a clean water supply and waste disposal facilities (Shah, I.H and Khanna, J., 1990).

Therefore, in such countries, feeding of infants by "exclusive breast-feeding" (which means giving infants with only breast milk until 6 months of age), is important because it is associated with almost complete protection against cholera and diarrhoea even when other potential factors were controlled (Clemens et al, 1990). Protective effect of breast milk against infection, especially gastrointestinal infections are also found in the developed countries (Shah, I.H and Khanna, J., 1990).

In addition to anti-infective property, breast milk also facilitates the establishment of a strong relationship between mother and infant (Lucas, A., Morley, R., Cole, T. J et al, 1992).Moreover, it protects mothers from pre-menopausal breast cancer (Lancet, 1994).

Psychologically, breast-feeding encourage women's self-confidence and self-reliance, as they are able to provide quality care for their children (UNICEF, 1994). Breastfeeding is a cost effective way of feeding an infant, providing nourishment for a child at a small cost to the mother. Frequent and exclusive breastfeeding can delay the return of fertility through lactational amenorrhea, though breastfeeding is an imperfect means of birth control. During breastfeeding beneficial hormones are released into the mother's body and the maternal bond can be strengthened (Women's Health Gov., 2009). Breastfeeding is possible throughout pregnancy, but generally milk production will be reduced at some point (Feldman S, 2000).

Breast-feeding can provide up to 98 percent effective contraception if 3 criteria are met:

- the mother has not experienced the return of her menstrual periods
- the mother is fully or nearly fully breast-feeding; and
- the baby is less than six months old (Labbok, M., Cooney, K., and Coly, S.,,1994).

If the mother fully breastfeeds for a longer duration, there is a delay for next pregnancy even if she does not use any contraceptive method. By delaying closely spaced births naturally, there will be a reduced risk of having a low-birth weight infant in the next pregnancy. It in turn leads to preventing infant morbidity and mortality and enhance child survival (Shah, I.H and Khanna, J., 1990). Children born within 2 years after the birth of previous sibling are about twice as likely to die within 5 years of age as those born after 4 years interval. It is particularly important in most developing countries where contraceptive prevalence is low. In

these countries, lactational infertility contributes significantly to lower fertility and longer births intervals, both of which have an important impact on maternal and child health (Shah, I.H and Khanna, J., 1990).

Breast-feeding saves families the time and money that would otherwise be used for bottle-feeding and for treating the illnesses caused by bottle-feeding. In addition, countries save foreign exchange by not having to import breast milk substitutes (UNICEF, 1994).

Studies have examined whether breastfeeding in infants is associated with higher intelligence later in life. Possible association between breastfeeding and intelligence is not clear. The 2007 review for the AHRQ found "no relationship between breastfeeding in term infants and cognitive performance"(Ip S, Chung M, Raman G, et al, 2007) and in 2006, a prospective cohort study, sibling pairs analysis, and meta-analysis, concluded that "Breast feeding has little or no effect on intelligence in children"(Der G, Batty G.D, and Deary I.J, 2006). The researchers found that "Most of the observed association between breast feeding and cognitive development is the result of confounding by maternal intelligence"(Der G, Batty G.D, and Deary I.J, 2006).

However, a 2007 review for the World Health Organization "suggests that breastfeeding is associated with increased cognitive development in childhood." The review also states that "The issue remains of whether the association is related to the properties of breast milk itself, or whether breastfeeding enhances the bonding between mother and child, and thus contributes to intellectual development"(Horta B.L, Bahl R, Martines J.C, et al, 2007). A 2005 study using data on 2,734 sibling pairs from the National Longitudinal Study of Adolescent Health "provided persuasive evidence of a causal connection between breastfeeding and intelligence" (Evenhouse E., and Reilly S., 2005). In another study, cited as "the largest randomized trial ever conducted in the area of human lactation", between 1996

and 1997 maternity hospitals and polyclinics in Belarus were randomized to receive or not receive breastfeeding promotion modelled on the Baby Friendly Hospital Initiative (Kramer M.S, Aboud F, Mironova E, et al, 2008). Of 13,889 infants born at these hospitals and polyclinics and followed up in 2002–2005, those who had been born in hospitals and polyclinics receiving breastfeeding promotion had IQs that were 2.9–7.5 points higher (which was significantly higher). Since (among other reasons) a randomized trial should control for maternal IQ, the authors concluded in a 2008 paper that the data "provide strong evidence that prolonged and exclusive breastfeeding improves children's cognitive development." (Kramer M.S, Aboud F, Mironova E, et al, 2008).

Breastfed babies have fewer illnesses because human milk transfers to the infant a mother's antibody to disease. About 80% of the cells in the breast milk are macrophages, cells that kill bacteria, fungi and viruses. Breast-fed babies are protected in varying degrees, from a number of illnesses such as pneumonia, botulism, bronchitis, staph infection, influenza, ear infection and German measles. Furthermore, a mother produces antibodies to whatever disease is present in their environment, making their milk custom designed to fight the disease their babies are exposed to as well. A breast-fed baby's digestive tract contains large amount of *Lactobacillusbifidus*, beneficial bacteria that prevent the growth of harmful organisms. Sucking at the breast promotes good jaw development as well. Nursing may have psychological benefits for the infants, creating an easy attachment between mother and child. Nursing is also nature's contraceptive. Frequent nursing suppresses ovulation or getting pregnant. Lactation also stimulates the uterus to contract back to its original size.

Breast feeding is economical also. Even though a nursing mother works up a big appetite and consumes extra calories, the extra food for her is less expensive than buying formula milk for her baby.

It has been found that babies given cow's milk or formula by bottle and no breast-milk have over 60% more risk of being malnourished. Almost 5 million babies each year are at risk of poor nutrition because of inadequate breast-feeding practices in rural areas (Robert P., 1990). And in our environment due to various factors such as unsafe water, unhygienic handling of food, storage of food at ambient tempt for a long time and poor domestic and personal hygiene are all associated with diarrhoeal diseases which are in turn due to bottle feeding.

Realizing the great advantages of breast-feeding and the changing patterns of breast-feeding practice worldwide, the World Health Organization, 1981, recommended that all infants should be "exclusively breastfed for 4 to 6 months of age"(Kaunang and Yvonne M., 1999). Moreover, UNICEF (1994) has advocated breast-feeding as one of the strategies for "Child Survival" and exclusive breast-feeding as a best protective way for infants against infection and malnutrition. Nowadays, promotion of breastfeeding through Family Planning and MCH Programs is increasingly considered to be a public health policy priority especially in developing societies (Tin O., 1995).

1.4 Challenges to Breastfeeding

It must however, be noted that breastfeeding even though good becomes insufficient for infant feeding after 6 months than adequate supplementary feeding has to be introduced from 6 months in addition to the breastfeeding. Otherwise it leads to undernourishment and increased susceptibility to infections.

There are some few medical reasons why a mother shouldn't breast feed. Common illnesses such as cold, flu, skin infections, or diarrhoea, cannot be passed through breast milk but a few viruses like HIV can pass through breast milk. A few other illnesses - such as therpes,

hepatitis, and Beta strept infections can be transmitted through breast milk and Silicone breast implants if leaking may harm the baby.

For all its health benefits, breast feeding does have some disadvantages. In the early weeks, it can be painful. A woman's nipple may become sore or cracked. She may experience engorgement more than a bottle-feeding mother, when the breast become so full of milk they are hard and painful. To produce enough good milk, the nursing mother needs a balanced diet that includes 500 extra calories a day and 6 to 8 glasses of fluid. She should also rest as much as possible to prevent breast infections, which are aggravated by fatigue.

Both incidence and duration of breast-feeding have been changing in both developing and developed countries over the recent decades. More than 2 decades of research have established that Breast milk is perfectly suited to nourish infant and protect them from illness. However, there has been a worldwide decline in breast-feeding in the past few decades. In developed countries like America, research in 1993 showed only 55.9% of mothers breast-fed their babies in the hospital. Only 19% were still breast-feeding when their babies were 6 months old. The prevalence of breast feeding in Scotland is the second lowest in Europe due to ineffective interventions which seek promotion of successful Breast feeding and hospital practices which discourage and undermine breast feeding (Campbell H., and Jones I., 1996).

However, breast feeding duration in developing countries is high but exclusive breast feeding practices are still not good. In Indonesia, Pakistan and Thailand, it is nearly 2 months and in Philippines and Ceylon, it is 4 months (Suharyono, P.M., 1997). In Nigeria, the prevalence of exclusive breastfeeding was 17% in 2003 (NDHS, 2003), however this declined currently declined to 13% (NDHS, 2008).

These figures are influenced by so many factors among which are; deficient knowledge of mothers of how to optimize health and contraceptive benefits of breast feeding, mothers' perception about insufficient breast milk. Also, demographic, socioeconomic, psychological and natural factors play an important role. Rapid expansion of milk technology with advertisement and sale of infant formula is another cause of decline of breast-feeding.

At the same time, young urban women are increasingly being separated from their own mothers and their female relations and thus have lost their traditional source of support and advice. Fear of adequate milk supply, nipple or breast soreness and other problems also lead to premature cessation of Breast feeding due to inadequate information on how to overcome these problems.

In some developing countries, well educated women breastfeed for shorter duration especially in urban areas whereas the reverse pattern is seen in developed countries since well educated women are more likely to breastfeed their babies and for longer period (Kaunang and Yvonne M, 1999).

Early introduction of mixed feeding is still very common. Poor breastfeeding practices are a major cause of neonatal and infant mortality. 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 2005). Although breastfeeding is universal in the country, the trend is towards giving other feeds in addition to breastmilk (Omotola B.D, Grange A.O, Adedoyin J.A, et al, 2005).Reports show that the rate of EBF in the first 6 months of life is as low as 17%(UNICEF 2005 & NDHS 2003). This has been attributed to several socio-economic and cultural factors (Arora S, McJunkin C, Wehrer J, et al 2000). However, these factors are still not adequately defined.

These figures are influenced by so many factors among which are; deficient knowledge of mothers of how to optimize health and contraceptive benefits of breast feeding, mothers' perception about insufficient breast milk. Also, demographic, socioeconomic, psychological and natural factors play an important role. Rapid expansion of milk technology with advertisement and sale of infant formula is another cause of decline of breast-feeding.

At the same time, young urban women are increasingly being separated from their own mothers and their female relations and thus have lost their traditional source of support and advice. Fear of adequate milk supply, nipple or breast soreness and other problems also lead to premature cessation of Breast feeding due to inadequate information on how to overcome these problems.

In some developing countries, well educated women breastfeed for shorter duration especially in urban areas whereas the reverse pattern is seen in developed countries since well educated women are more likely to breastfeed their babies and for longer period (Kaunang and Yvonne M, 1999).

Early introduction of mixed feeding is still very common. Poor breastfeeding practices are a major cause of neonatal and infant mortality. 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 2005). Although breastfeeding is universal in the country, the trend is towards giving other feeds in addition to breastmilk (Omotola B.D, Grange A.O, Adedoyin J.A, et al, 2005).Reports show that the rate of EBF in the first 6 months of life is as low as 17%(UNICEF 2005 & NDHS 2003). This has been attributed to several socio-economic and cultural factors (Arora S, McJunkin C, Wehrer J, et al 2000). However, these factors are still not adequately defined.

1.5 Problem Statement

WHO recommends exclusive breastfeeding (EBF) to infants for the first six months of life, but still EBF rates remain low throughout the world. Globally it is estimated that prevalence of exclusive breastfeeding is 35% (WHO, 1998).

It is estimated that with exclusive breastfeeding, 13% to 15% deaths of children under 5 years could be averted in low and middle income countries (Iliff P.J, Piwoz E.G, Tavengwa N.V, et al, 2005 and WHO, 2003).

Although there is a reported increased trend of EBF as reported in most regions, the rates varies in the regions for instance; in Sub-Saharan Africa the increase was reported from 22% in 1996 to 30% in 2006, East Asis/Pacific, (excluding China) from 27% in 1996 to 32% in 2006, Latin America and the Caribbean, (excluding Brazil and Mexico) from 30% in 1996 to 45% in 2006. Yet, still these rates are low according to WHO recommendations despite the observed increase (WHO, 2009). Only 13% of infants at the age below 6 months are exclusively breastfed in Nigeria (NDHS, 2008).

There are number of factors that have been reported to hinder EBF, these include socio-cultural and norms, family and social pressures to mixed feed, customs that require giving water to new-borns since every stranger entering the house is to be given water, the belief that exhaustion and thirst that the infant gets after birth necessitate giving it water and giving infants concoctions just after delivery for protection (Laar A.S, and Govender V, 2011, de Paoli M, Manongi R, Helsing E and Klepp K, 2001 and Leshabari S.C, Blystad A, de Paoli M and Moland M.M, 2007).

With all said if optimal breastfeeding is not practised, mortality rates will increase by 13% and if optimal complementary feeding is not practise, another 6% increase in infant mortality will occur in countries with high mortality (Gareth J, Richard WS, Robert EB, et al, 2003).

1.6 Justification of study

Earlier studies have indicated that up to 70% of new-born deaths can be averted by ensuring clean delivery, early breastfeeding initiation, exclusive breastfeeding and early recognition and treatment of illness. Due to breastfeeding being one of the factors causing high under-five mortality rate, the importance of this study is to address and determine the factors affecting breastfeeding practices, early initiation of breastfeeding and exclusive breastfeeding among women of reproductive age attending Adeoyo Yemetu Hospital.

This study will shed more light on how these factors can be improved and managed to reduce under-five mortality rate in the society. This study also intends to update existing literatures about the factors affecting breastfeeding practices and to add the knowledge on the observed gap in this area by assessing these factors. The findings of this study are expected to inform practice and policy decisions in the development of appropriate interventions to promote breastfeeding practices hence improvement of child health in Ibadan North Local government.

1.7 Research Questions

1. To what extent do nursing mother practice exclusive breastfeeding?
2. What variables influence breastfeeding practices?

1.8 Objectives;

1.8.1 Broad Objective

To determine the factors affecting infant breastfeeding practices among women of reproductive age at Adeoyo Maternity Hospital, Yemetu, Ibadan North Local Government.

1.8.2 Specific Objectives

The specific objectives of this study are:

1. To determine the prevalence, knowledge and attitude toward exclusive breastfeeding.
2. To describe the breast-feeding practices and practice of complementary feeding of mothers.
3. To determine the factors associated with exclusive breast-feeding practice among mothers.
4. To determine relationship between knowledge and practice of exclusive breastfeeding among mothers.

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, 2003). 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 U., 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 M.S and Kakuma R., 2012), increases family and national resources and is a secure way of feeding and saving the environment. 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 U., 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, 2003).

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 diarrhoea and acute respiratory infection (Kramer M.S and Kakuma R., 2012; El-Kariri M. and Basil K., 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 U., 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 A.J, Al-Hadi A-H.M and Abdulla M.M, 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 U., 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 diarrhoea, and prolongs lactation amenorrhea, thereby increasing birth spacing (Oche M.O, Umar A.S and Ahmed, H 2011). Exclusive breastfeeding reduces infant mortality due to common childhood illnesses such as diarrhoea 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 MS, Morgan JB, Duggan C, et al, 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 M.O, Umar A.S and Ahmed, H 2011). Although exclusive breastfeeding has been recommended the world over as the optimal feeding mode for young infants (Ogbonna C, Daboer JC, 2007) and although nationwide efforts to promote exclusive breastfeeding began in Nigeria in 1992, there is paucity of recent information on the knowledge, attitude and practice of exclusive breast feeding among mothers in Ibadan North Local Government Area.

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 infant 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 breast-feeding was through primary health care practitioners and health education. Media represented 22% of the average of information sources (El-Kariri M. and Basil K,, 2007).

In Nigeria, according to (Ukegbu A.U, Ebenebe E.U, Ukegbu P.O, 2011), majority of nursing mothers (91.2%) had good knowledge of breastfeeding. Their main source of breastfeeding education was government health facilities. This is similar to a study conducted by Okolo S.N, Adewunmi Y.B, and Okonji M.C, (1999) as 33.0% 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. 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 C. and Daboer J. C., 2007).

Further, according to a study on Infant feeding among women attending an immunisation clinic at a tertiary health institution in Ibadan, Nigeria, almost all the mothers (97.3%) had good knowledge about exclusive breast-feeding (Fatiregun, A. A and Abegunde, V. O., 2009), A similar situation is reported by Uchendu U.O, Ikefuna A.N and Emodi I.J, (2007) in a study in tertiary institution, where more than 90% had adequate knowledge of EBF while in

another study by Okolie U.(2012), 8% women expressed no knowledge of EBF. Sixty percent of the mothers were aware of exclusive breastfeeding (EBF) 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 (Oche M.O, Umar A.S and Ahmed, H 2011).

2.5 Practice of breastfeeding among nursing mothers

Although, a study done in Ile-ife, Osun State Nigeria by Ojofeitimi E.O, Esimai O.A, Owolabi O.O, et al (2000) confirmed that Exclusive breast feeding which was once considered to be less than 3%, has increased significantly to 61%, in another study in Sokoto the practice of EBF is rare with only 17% of children younger than six months being exclusively breastfed (Oche M.O, Umar A.S and Ahmed, H 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 westernised cities of Bogota and Bankok, 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 B., 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 H. and Chambers L., 2011).

In Gaza Strip, according to El-Kariri M. and Basil K., (2007), results also 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.

According to Oche et al (2011), 31% of the mothers practiced exclusive breastfeeding (Oche M.O, Umar A.S and Ahmed, H, 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 T. A., 2010).

In a study conducted in Enugu, South east Nigeria, the exclusive breast-feeding rate was 33.3% (Aghaji M.N., 2002). 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 my 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 Z., 2008). In Nasarawa Nigeria, Only 28.6 per cent 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 S.N, Adewunmi Y.B, Okonji M.C, 1999).

According to Ogbonna C, Daboer J. C., (2007), 67.0% of women practiced or was 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 practised in this community as 78.7% of the mothers gave only breast milk up to six months after delivery. None of the mothers breastfed for less than six months while 71% did so for 19-24 months (Oche M.O. and Umar A.S, 2008). In a study on determinants of breast feeding pattern in Anambra state, only 37.3% of the children were breastfed exclusively (Ukegbu A.U, Ebenebe E.U, Ukegbu P.O, et al, 2011). In a similar study, only a small proportion (19%) of the nursing mothers practiced exclusive breastfeeding (Ojo M. A. and Opeyemi V. O., 2012).

Thirty-nine (21.2%) practiced exclusive breastfeeding for all their children while 51.6% never practiced for any child (Uchendu U. O.,Ikefuna A. N. and Emodi I. J., 2009). In a survey in Ibadan, Nigeria, exclusive breastfeeding, the rate dropped from 57.4% at 1 month to 23.4% at 6 months (Lawoyin T.O., Olawuyi J.F., and Onadeko M.O, 2002).

Further, in an analysis of infant feeding pattern among HIV mothers in Ibadan, 28.3% mothers' breastfed their babies exclusively for six months and 50.8% initiated breastfeeding within one hour of birth (Brown B.J, Oladokun R.E and Osinusi K, 2009). Maternal education below secondary level strongly contributed to pre-lacteal feeding and failure to practice exclusive breastfeeding (Ogunlesi T. A., 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 (Liqian Q., Yun Z., Colin W. B., et al. 2009). According

to Ogunlesi T. A. (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 T. A., 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 T.O., Olawuyi J.F., and Onadeko M.O., 2002). The knowledge and practice of exclusive breastfeeding was found to increase with increasing age and better educational status of the women (Ogbonna C, Daboer JC, 2007).

2.7 Hindrances to the practice of exclusive breast feeding

It is expected that with mothers' high knowledge of exclusive breastfeeding that the practise should likely be high but the reverse is the case. 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 favoured by majority of the mothers (68%) most of whom felt that the milk would get contaminated (Brown B.J, Oladokun R.E and Osinusi K, 2009).

Some mothers gave reasons for delayed initiation of breastfeeding to include colostrum 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 M.O, Umar A.S and Ahmed, H, 2011, Abdul Ameer A.J, Al-Hadi A-H.M and Abdulla M.M, 2008). Delivery of children outside health facilities strongly contributed to delayed initiation of breastfeeding and failure to breastfeed exclusively (Ogunlesi T. A.,

2010) and also delivering through caesarean option has been discovered to contribute to mothers' not breastfeeding exclusively (Kroeger, M, Smith, L, 2004)

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 (Davies-Adetugbo, A.A., 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 (Okolie U., (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 U., 2012).

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 M.N., 2002). Also, the desire to practice exclusive breastfeeding was often compromised shortly after child delivery. 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 (Ojo M. A. and Opeyemi V. O., 2012). Maternal education below secondary level

strongly contributed to pre-lacteal feeding and failure to practice exclusive breastfeeding (Ogunlesi T.A., 2010).

2.8 Demographic Factors and duration of breast-feeding

Maternal age: Many researchers found that older women tend to breastfeed longer. It is likely that older women have more experience in infant feeding than younger women. They may know the benefits of breast-feeding by their own experience and as a result, they are more likely to breastfeed longer.

A study based on the data from 1987 National Contraceptive Prevalence Survey found that older women are more likely to continue breast-feeding beyond18 months than younger women in rural Java-Bali (Iskandar M.B., Costello,C., and NasutionY.,1990).

Similarly, a study in1986 based on 3,774 currently married women aged 15-50years from rural areas and 1,255 women from urban areas in Nepal revealed that younger women breastfeed for a shorter period (Tuladhar, J.M., 1990). This pattern is also reported from a study conducted in Bangladesh. based on 7,516 ever married women under 50 years of age. which was extracted from 1989Bangladesh Fertility Survey. It revealed positive association between mother's age at birth of index child and the duration of breast-feeding. Older women (35-49years) breastfeed on the average of 29.3 months compared to 28.1 months among women aged 15-24 years (Mannan, H.R. and Islam, M.N, 1995).

However, Tu Ping (1990) argued that age of mothers has no independent effect on duration of breast-feeding in Shaanxi province of China when parity is controlled. The study was based on 4,084 ever-married women under age 50 from 1985 Fertility Survey.

Therefore, age of mother at the birth of an index child has both positive and negative effects on duration of breast-feeding in different societies. It is one of the important factors influencing duration of breast-feeding.

Parity: Parity of mother has significant effect on breast-feeding duration. Usually women with higher parity breastfeed their children for longer duration. It is most likely that women with higher parity are usually older, less educated and less likely to be involved in formal employment sector. Also, women with many children are more likely to be from rural areas and follow the traditional lifestyles. Therefore, they can breastfeed longer, which is a common phenomenon in rural areas. Many studies found different effects of parity on duration of breastfeeding.

A research in conducted in 4 villages of Wardha district in Maharashtra State of India found that multiparous mothers were more likely to breastfeed for more than one year than primiparous mothers (Kishore, S, Garg, B.S, Mathur, J.S et al, 1995)

However, the above finding was challenged by Tuladhar, J.M. (1990) from Nepal who argued that women with higher parity breastfeed their penultimate child for a slightly shorter period than women with lower parity, but he did not give any explanation. That argument is also supported by studies from Nigeria and Myanmar.

In Nigeria, a study from 1,246 currently married women with at least 2births found that women with not more than 3 children breastfeed on the average of 14.5 months compared to 13.2 months for women with 4 or more children. It was observed in the study that with each additional child, the mother has less time to spend on each individual child, hence she breastfeeds for a shorter period. Moreover, it is likely that the child is weaned early due to subsequent pregnancy (Adenusi O.O, 1993).

Researchers from Myanmar make another argument. There is a significant reduction in the duration of breast-feeding for women with 2 or more living children compared to women with one living child ($p< 0.05$). This argument is based on a cross-sectional household survey conducted in 1996 in one peri-urban area of Myanmar, comprising 513 currently married women of reproductive age having at least one child of 1-4 years of age (Khin Thet Wai and K Ba Thike, 1996). However, the researchers did not mention the exact duration of breastfeeding according to parity. Based on these studies, we can observe that parity of mothers also has different effect on duration of breast-feeding in different settings.

Birth Order: Some researchers found the positive relationship between birth order of the child and duration of breast-feeding. The higher the birth order of the child is, the longer is the duration of breast-feeding. It is because children of higher birth order are more likely to be born by older mothers, who are less likely to engage in employment sector and can breastfeed them longer.

Another reason may be that these mothers may have older children who help them in household work, so they have more time to breastfeed their babies. This is the common pattern in many societies.

Tu Ping (1990) stated that in Shaanxi, China the median duration of breastfeeding increases significantly with birth order of the child. In addition, median duration of breast-feeding increases much faster with birth order if the child is male. Even for female children, the median duration increased with birth order (17months for first order female children compared to 27.9 months for fourth and higher order ones). Therefore, birth order of the child has significant effect on duration of breast-feeding.

This tendency is supported from a survey from one peri-urban area of Myanmar. That survey showed positive relationship between duration of breastfeeding and birth order of the child.

regardless of the sex of the child. Almost 40per cent of first births are still breast fed at 24th month of age compared to over 51per cent of children who are higher than third order of birth (Khin Thet Wai and KBa Thike, 1996).

However, some researchers argued that there is no significant variation in the duration of breast-feeding by birth order of the child. A survey conducted on 2,769 women having their last birth between 1983-88 in Viet Nam revealed no variations in duration of breast-feeding by birth order of the child (Swenson, I.E, Thang, N.M and Tieu, P.X., 1993). The researchers did not give the reason about that.

Sex of the Child: It is one of the important factors influencing duration of breast-feeding. In some countries, male children are breastfed for longer period than female children due to son preference by cultural or religious reason. It is a common phenomenon in China, some South Asian countries and also in some Arab countries. A study in China of 4,084 ever-married women under age 50 in Shaanxi, found that male children are breastfed longer than female children.

Median duration of breast-feeding for females during 1979-83 was 21.1 months compared to 23.9 months for males (Tu Ping, 1990).

Similar pattern is seen in India. From currently married women in 4,448households in Eastern Uttar Pradesh, researchers discovered that sons were breastfed 3 months longer and 2 months longer than daughters in upper and remaining caste groups respectively and this difference is significant (Mukherjee, S. Singh, K.K. and Bhattacharya, B.N., 1991). Therefore, son preference by cultural or religious reason has a strong effect on duration of breast-feeding.

Although sex of the child has a significant effect on duration of breastfeeding in some countries, it seems to have only a slight difference in others. In Bangladesh, mean duration of breast-feeding for male children is 28.3 months compared to 28.1 months for female children (Mannan, H.R. and Islam, M.N. 1995).

Virtually no difference in duration of breast-feeding by sex of child is also found in Indonesia. Median durations of breast-feeding between male and female children in urban and rural Java-Bali are about the same, that is, 17.5 months for male and 17.6 months for female babies in urban area and 23.3 months for male and 23.4 months for female babies in rural area (Iskandar, M.B., Costello,C., and Nasution,Y.,1990).

On the other hand, reverse phenomenon is seen in some countries. Male children are fully breastfed for a shorter period than female children in the Philippines. Mothers supplement boys earlier to meet their increasing needs for growth than to girls or because of sex preferences that favour the provision of supplements to boys rather than to girls (Adair, L.S., Popkin, B.M. and Guilkey, D.R., 1993).

From the above studies, sex of the child seems to have varied effects on duration of breast-feeding in different countries depending on caste, cultural or religious reasons. It is an important factor influencing duration of breastfeeding in societies where son preference is strong. In such societies, boys are breastfed for markedly longer period than girls leading to difference in their nutritional status.

Age at first birth: Age at first birth has significant effect on breast-feeding duration. One socially disadvantaged group of special interest to this study is women with a teen first birth. Teen mothers are a category of women with notably low breastfeeding rates (Thau et al., 1996), so if health-care providers hope to increase breastfeeding rates in Nigeria, women with a teen first birth are an important target group.

The circumstances of breastfeeding for women with a teen first birth are often different than for other women, both socially (Ineichen et al., 1997) and biologically (Motil et al., 1997).

2.9 Socioeconomic Factors and Duration of Breast-feeding

Maternal Education: Effect of maternal education on duration of breastfeeding varies in different societies. Along with modernization, well-educated women tend to breastfeed for a shorter period especially in urban areas. It may be that as women become more educated, they are more likely to involve in formal employment, which is not compatible for longer duration of breast-feeding.

However, the reverse pattern is seen in some developed countries since well educated women are more likely to breastfeed their babies and for a longer period (Kaunang Y.M., 1999). The possible explanation is that as women become more educated they become more aware of advantages of breast-feeding and thus they breastfeed their babies longer.

The finding that better-educated women breastfeed shorter than less educated women is supported by Kalra, A., Kalra, K. and Dayal, R.S. (1982) and Mannan, H.R. and Islam, M.N, (1995)from India and Bangladesh respectively. In India, a study of 4,475 mothers in Agra found that mothers who had less education and belonged to a poorer socioeconomic group breastfed their infants for a longer period (Kalra, A., Kalra, K. and Dayal, R.S, 1982).

In Bangladesh, women with post-primary education breastfed quite markedly less than other women. Respondents having no schooling breastfed on the average of 28.8 months whereas mothers with a higher education breastfed on the average of26.2 months (Mannan, H.R. and Islam, M.N, 1995).

Many researchers from the Philippines also supported that finding. Adair, L.S., Popkin, B.M. and Guilkey, D.R (1993) found that women with higher education are more likely to breastfeed for a short time. The result is based on a study of 2,622 mothers in both urban and rural communities of Cebu City. Stewart, J.F, Popkin, B.M., Guilkey, D.K. et al (1991) also agreed that highly educated mothers from families with highest income or asset categories are least likely to breastfeed and they do so for a short period.

Although most studies supported the negative relationship between maternal education and duration of breast-feeding, Swenson, I.E; Thang, N.M and Tieu, P.X., (1993) argue from a study in Viet Nam that breast-feeding duration was longer among the more highly educated women. His argument was based on a survey of 2,769 women having their last births between 1983- 1988.

Maternal education also has different effect on pattern and duration of breast-feeding in different societies. In China, maternal education has a much weaker effect than mother's occupation on duration of breast-feeding and age at introduction of supplemental food in Shaanxi province (Tu Ping, 1990). Iskandar, M.B., Costello,C., and Nasution,Y., (1990) stated that in Indonesia, women with higher education (more than primary level) weaned their babies up to 2 times faster than women with less education. However, the exception is found among all urban mothers, among Outer Islands spouses, those with junior high or primary school education, who are less likely to breastfeed than those most highly educated.

It appears from the above studies that maternal education has a mixed effect on duration of breast-feeding in different societies and thus it is necessary to find out the association between this variable and duration of breast-feeding.

Maternal occupation: The work status of women causes a major difference in the duration of breast-feeding since it requires leaving the infant at home during working hours.

Therefore, duration of breast-feeding is shorter among working mothers. In addition, type and pattern of job of mothers also influence the duration of breast-feeding in different societies. Location of work or distance of work from home, type of work, the other alternative available for child care and the income derived from the work all seem to be important (Shah, I.H and Khanna, J., 1990).

In Shaanxi, China, mother's occupation is strongly associated with duration of breast-feeding even all other covariates are controlled. Children born to mothers with a non-agricultural occupation are breastfed shorter than children born to mothers who are agricultural workers or have never worked outside the home (Tu Ping, 1990). Similar effect is found in India. Inhibitory effect of maternal occupation on duration of breast-feeding is true for urban areas where women could not bring their children to the work place (Khan M.E., 1990).

Type of maternal occupation also determines duration of breastfeeding. Certain occupations are more compatible with breast-feeding than other types of work. It is supported by Stewart, J.F, Popkin, B.M., Guilkey, D.K., (1991) from the Philippines. Working mothers in the modern wage sector had reduced tendency to breastfeed. WilliamsonN.E. (1990) also supported that infants who were breastfed for the shortest duration were born by mothers with modern occupation in the Philippines during the period of 1973-88.

Although many researchers agreed that maternal occupation has a negative impact on duration of breast-feeding, Mannan, H.R. and Islam, M.N (1995) argued that in Bangladesh, currently working mothers breastfeed for a slightly longer duration (29.0 months as compared with their non-working counterparts who breast feed for 28.1 months). Also, Ahmed S. (1997) found that these durations were28.5 and 28.1 months for working and non-working women respectively (Mannan, H.R. and Islam, M.N, 1995). They explained that

since most of currently working women in Bangladesh were physical or manual labourers, so they could take their babies to work and breastfed longer.

Father's Education: Like other factors, father's education can also affect duration of breast-feeding. Usually, well-educated men can get a good job and as a result, they can earn sufficient income. Also, better-educated man tends to marry better-educated women. If both of them are employed, they can earn more income for the family. As their income increases, they can purchase household items such as refrigerator, gas or kerosene stove, which favors the use of breast milk substitutes. As such, it will lead to shorter duration of breast-feeding. Father's education may also have positive effect on duration of breastfeeding.

It is because as fathers are well educated, they have more access to the messages from health sector or from mass media. As they understand the benefits of breast-feeding, they will encourage their spouses to breastfeed longer. Many researchers found that there is an inverse relationship between father's education and duration of breast-feeding. Longer duration of breastfeeding is seen among children whose fathers are with no schooling or less schooling. In Bangladesh, the mean duration of breast-feeding is 28.9 months for children having fathers with no schooling compared to 27.2 months for children having fathers with a higher education (Mannan, H.R. and Islam, M.N, 1995).

The same relationship is seen in an Indonesian study although some variations exist in different areas. In both urban and rural Java-Bali, negative relationship is seen. Median durations of breast-feeding for children whose father shaving primary education and having senior high education are 17.9 months and14.7 months respectively in urban and 23.5 months and 19.7 months respectively in rural Java-Bali. The exception is in urban and rural Outer Islands1. There is no difference in median durations of breast-feeding among children in

urban Outer Islands whereas reverse pattern is seen in rural outer Islands (Iskandar, M.B., Costello,C., and Nasution,Y.,, 1990).

Like other factors, father's education has different effect in some areas. In the Middle East, the 4 Near-East countries (Yemen, Tunisia, Jordan and Egypt),father's education does not have a strong association with the duration of breastfeeding, except in Jordan and rural Egypt (Akin, J. S, Bilsborrow R E, Guilkey D K et al, 1986).

The studies reviewed above seem to suggest that father's education has different effect on breast-feeding duration like other variables.

Father's Occupation: The association of father's occupation with EBF has been inconsistent (Chudasama RK, Patel PC & Kavishwar AB, 2009 and Lawoyin TO, Olawuyi JF & Onadeko MO, 2001). Earlier studies found certain inconsistencies, whereby father's occupation was associated with EBF in 2006 but not in 2011. Fathers who work in professional, clerical, service, and manual occupations usually go outside the home in search of work and the burden of work may be higher for the women in the household leaving less time for them to EBF the infants. Father's increased knowledge and being in a paid occupation have been found to have a positive impact on breastfeeding in other countries (Lovera D, Sanderson M, et al, 2010, Nickerson LE, Sykes AC & Fung TT, 2012, Tohotoa J, Maycock B, et al, 2009).In some cases, a good job giving sufficient income may increase the household status, thereby providing sufficient needs that may tend to enhance use of breast milk substitute and will cause reduction in breastfeeding duration. The father's impact of EBF is an area of increasing research in developed countries (Tohotoa J, Maycock B, et al, 2009) and is an area that needs further exploring in developing countries including Nigeria, as a potential contributor to improving EBF rates.

2.10 Health Service Factors and duration of breast-feeding

In most developing countries, lower rates of initiation of breastfeeding and shorter duration are associated with health care services (Huffman, 1984).

Activities of health professionals may be affected by inadequate training as well as by promotional practices of infant formula industry (Huffman, 1984). Like other factors influencing duration of breast-feeding, health care services have both positive and negative effect on duration of breast-feeding.

Antenatal care visit: During antenatal care, the attitudes and beliefs of the health professionals influence the women's own knowledge and attitude towards breast-feeding (Huffman S.L., 1984). During antenatal care, health personnel usually give advice on breast-feeding, providing the pregnant women information about the benefits of breast-feeding and encourage them to breastfeed. The UNICEF's Step 3 of the Ten steps to Successful breast-feeding is "informing all pregnant women about the benefits and management of breast-feeding" (UNICEF/ WHO, 1989 cited by Eregie C.O., 1997). Therefore, the more the pregnant women visit antenatal clinic or receive antenatal care, the more knowledge she can receive. It will lead to successful initiation of breast-feeding and continuation for the period advised by the health personnel from antenatal clinic.

Place of delivery: Utilization of health care services has an important effect on duration of breast-feeding. Practice of health workers at different health facilities can influence the women's decision to breastfeed. Advice and health education by health workers on breast-feeding as well as their encouragement helps enhance the women for successful initiation of breast-feeding and its continuation till the optimum period.

In Indonesia, use of modern health facilities or delivery attendants is associated with a shorter duration in both urban and rural Java-Bali. In urban areas, 25 per cent of mothers using modern health facilities and personnel at delivery stopped breast-feeding at 9-10 months and 50 per cent of them stopped at 16-17 months. Duration among mothers who delivered in a more traditional way are 2-3 months longer. In rural Java-Bali, median duration is 3-4 months shorter for those using modern facilities or attendants than women using traditional health care services for their deliveries.

Similar pattern is seen in outer islands 1 of Indonesia. Median duration are 17.2 months and 13.9 months respectively for women who delivered at home and at hospital in urban area whereas they are 19.4 months and 17.6 months respectively in rural areas (Iskandar, M.B., Costello,C., and Nasution,Y, 1990). Although there is a marked difference in duration of breast-feeding among women who utilized modern and traditional health services, the researchers do not explain the reason for that difference.

Among women who delivered at modern health facilities, those delivered at private hospitals or clinics are more likely to breastfeed for shorter periods. The underlying factors are varied in different societies. However, the same relationship between private deliveries and duration of breast-feeding is seen in the Philippines and Mexico. In Cebu, the Philippines, delivery of babies in private hospitals, where formula samples were widely distributed, was strongly related to bottle feeding and thus leading to less duration of breastfeeding (Stewart, J.F, Popkin, B.M., Guilkey, D.K et al, 1991).

In Mexico, use of modern maternal care is associated with decreased probabilities of both initiation and duration of breast-feeding. This association is stronger for use of private health care facilities compared to use of public healthcare facilities since private deliveries have negative impact on duration of breastfeeding. The authors explained that the practice of

"rooming-in" is less prevalent in the private hospitals and also the common use of anaethesia for "painless delivery" in private hospitals lead to delayed initiation of breast-feeding and duration of breast-feeding. Moreover, doctors and nurses are less likely to be supportive of prolonged breast-feeding than traditional midwives (Potter, J.E, Majarro, O. and Nunez, L, 1987). This common finding is most likely to be due to less encouragement on breastfeeding by health professionals in modern health facilities, less common practice of "rooming-in" in private health sector and lack of interest in giving advice on advantages of breast-feeding by health workers. However, after introduction of Baby Friendly Hospital Initiative (BFHI) in 1992, according to the government's policy in many countries, there is a change in practice of breast-feeding in modern health sector. Health personnel are trained to give advice on breast-feeding and to encourage women to breastfeed.

Therefore, the usual pattern of association between place of delivery and duration of breast-feeding is changing over time.

Mode of delivery: Initiation and duration of breastfeeding has been found also to depend on mode of childbirth, either natural or caesarean. Caesarean birth is a major abdominal operation and carries well-documented risks for both mother and baby. A mother is likely to stay in hospital longer than she would otherwise, with a longer recovery time after the birth, which can have an impact on establishing breastfeeding. When a mother goes into labour and gives birth without intervention, her body releases hormones that help with breastfeeding (oxytocin and prolactin). A caesarean birth may interfere with the natural release of hormones in both mother and baby, making it more of a challenge to establish breastfeeding. Some experts describe earlier and more abundant lactation if the mother is allowed to experience labour before a caesarean delivery (Kroeger, M, Smith, L, 2004).

A research was carried out among Canadian women by Beverley C., Janusz K., Elizabeth D., et al, (2010) to determine how birthing experience can affect breastfeeding. Many publications have examined the reasons behind the rising caesarean delivery rate around the world. Women's responses to the Maternity Experiences Survey of the Canadian Perinatal Surveillance System were examined to explore correlates of having a caesarean section on other experiences surrounding labour, birth, mother-infant contact, and breastfeeding.

The result of the study showed that proportions of women experiencing caesarean (89.7%) and vaginal (90.5%) births initiated breastfeeding. Women who had caesarean births were less likely to put their babies to the breast in the first 2 hours after birth than women who had vaginal births.

They were more likely to be offered help to initiate breastfeeding by a health care practitioner, to be offered free formula samples, to give their babies pacifiers, and to feed their babies according to a fixed feeding schedule than women giving birth vaginally. Women having caesarean births were less likely to breastfeed their babies in the months after birth.

Furthermore, in a study done by Zanardo V, Svegliado G, Cavallin F, et al, (2010) to determine whether elective caesarean delivery have a negative effect on breastfeeding, they report that, emergency and elective caesarean deliveries are similarly associated with a decreased rate of exclusive breastfeeding compared with vaginal delivery.

In addition, Maru Y and Haidaru J (2009) reports in their study that mothers who delivered by caesarean section were 80% times less likely to practise exclusive breastfeeding.

Advice on breast-feeding: Duration of breast-feeding also depends on whether the woman receives advice on breast-feeding from health worker or not during antenatal or post-natal clinic.

Usually, women who delivered at home or in a traditional form are given advice on advantages of breast-feeding by traditional birth attendants (TBA). They are also encouraged to breastfeed for a long time because the traditional birth attendants live in the same or immediate vicinity of their residence. As a result, frequent visits and prolonged health care at post-partum period by TBA leads to longer duration. This is a reason given by Iskandar, M.B., Costello, C., and Nasution, Y (1990) from Indonesia. In Indonesia, there is a predominant positive effect of traditional delivery on breastfeeding continuation on Java-Bali and Outer Islands1. The researchers also explained that the use of attendant may signify more traditional women, who are willing to breastfeed for a longer period.

However, like other variables, effect of breast-feeding advice from health workers on duration of breast-feeding varies in different countries. In the Philippines, there is no statistically significant effect of breastfeeding promotional messages on the intention and duration of breast-feeding (Stewart, J.F, Popkin, B.M., Guilkey, D.K., etal, 1991). In addition, if the mothers were told to feed formula, they breastfeed their babies for a dramatically shorter period. This is true for both full and any breastfeeding in the Philippines (Adair, L.S., Popkin, B.M. and Guilkey, D.R., 1993).

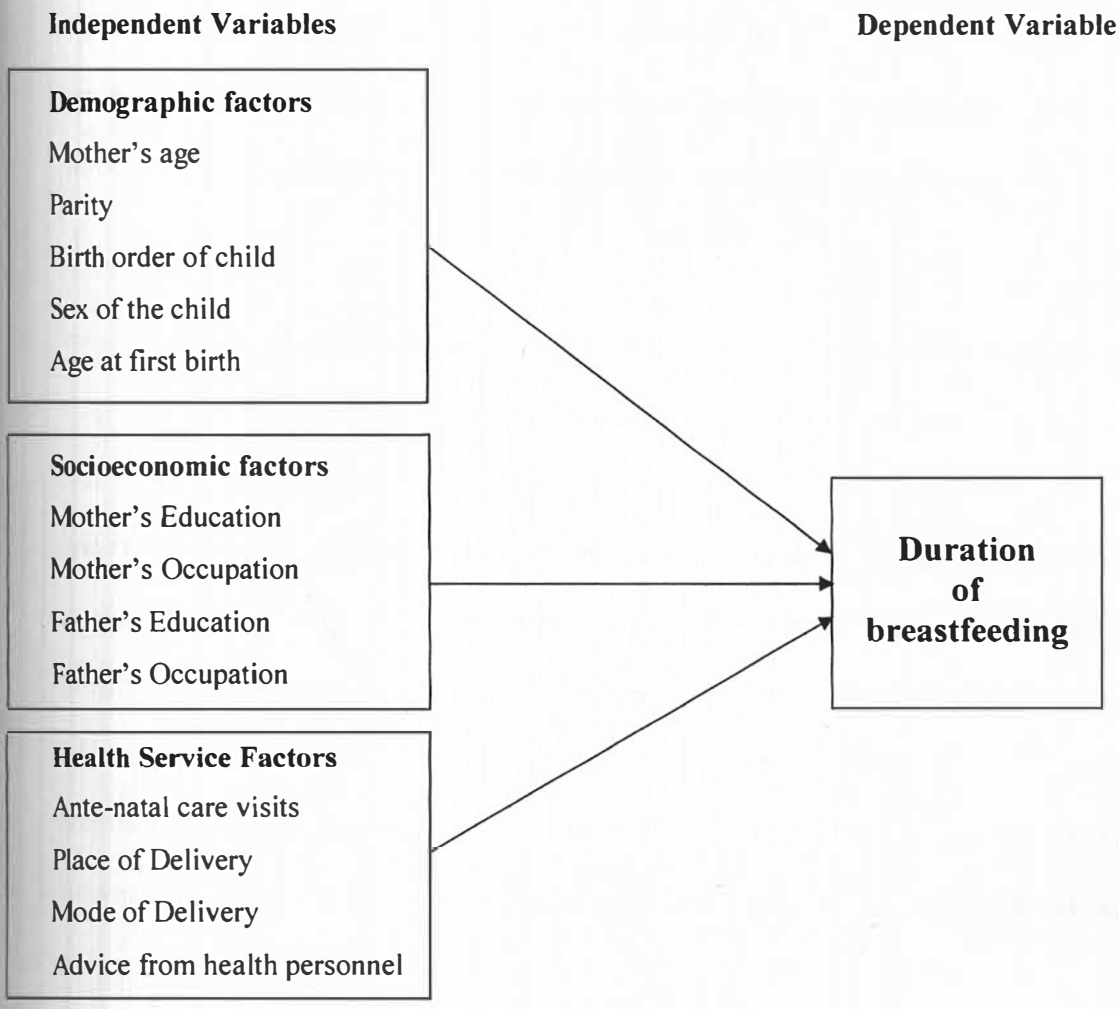
2.11 Conceptual Framework

The underlying concept of this study is that duration of breast-feeding can be affected by demographic, socioeconomic and health service factors. Among many demographic factors;

age of mother, parity, sex of child and birth order of child are assumed as importantfactors influencing duration of breast-feeding. Out of many socioeconomic factors; mother's education, occupation, father's education and occupation are regarded as major determinants of duration of breast-feeding.

Among various health service factors, 4 factors are considered important for duration of breast-feeding. They are number of antenatal care visits, place of delivery, mode of delivery and whether the woman had received an advice on breast-feeding during the post-partum period or not. This conceptual framework is presented in the figure below.

Figure 1: Conceptual Framework of the Study



2.12 Strategies towards promotion of exclusive breast feeding

Extensive body of research has demonstrated that mothers and other caregivers require active support for establishing and sustaining appropriate 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.

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 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 counselling delivered by trained health professionals as well as community workers has shown that this is an effective intervention to improve exclusive breastfeeding rates.

The United Nations Children's Fund (UNICEF) has 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 A.J, Al-Hadi A-H.M and Abdulla M.M, 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 months 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 M.S, Morgan J.B, Duggan C, et al, 2007).

In Nigeria, as well as in neighbouring countries of West Africa, infant morbidity and mortality have been on the increase despite the efforts of mothers to breast feed their young ones (Okolie U. 2012) and nationwide efforts to promote exclusive breastfeeding (Lawoyin T.O., Olawuyi J.F., and Onadeko M.O., 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 B., 2010).

CHAPTER THREE

METHODOLOGY

3.1 Research Design and Source of Data

3.1.1 Study Area

The study was carried out in Adeoyo Maternity Hospital, Yemetu located at Ibadan, Oyo State. Oyo State is one of the 36 states of Nigeria and is located in the South Western region of the country. The State was created in 1976 out of the old Western region and has a projected population of about 4 million (National population commission, 2000)

3.1.2 Study Population

The study populationconsist of mothers aged 15 to 49 that attended both antenatal and post-natal activities at Adeoyo Maternity Hospital, Yemetu Ibadan. The information on breast feeding practices was obtained on the index child.

3.1.3.1 Inclusion criteria

1. Women of age group15-49 years who at least breastfed their last child within the three years.
2. Mothers with children attending only Adeoyo Maternity Hospital, Yemetu, Ibadan.

3.1.3.2 Exclusion criteria

1. Women with no child
2. Women with children older than age 18.

3.1.3 Study Design

A descriptive cross-sectional study design was used. It involves a single examination of a population at a given time. The design was considered ideal for this study because it describes as well as examines factors associated with breastfeeding practices in the research setting. The advantage of this study design is that in general it is quick and cheap. Since there is no follow up, less resource are required to conduct the study.

3.1.4 Sample Size

The sample size was calculated using Leslie Kish's formula

$n=Z^2Pq/d^2$

n= minimum sample size

Z=1.96

P=the proportion of mothers that practices exclusive breastfeeding estimated at 61% (0.61) (Ojofeitimi E.O, Esimai O.A, Owolabi O.O, et al, 2000)

q=1-P

d=5% level of significant

$n=(1.96)^2(0.61)(0.39)/0.05^2$

n= 366 + 10% (for non-response)

n=**403** mothers of reproductive age in Adeoyo Maternity Yemetu Hospital Ibadan

3.1.5 Data Collection Instrument

Data were collected using a self-administered questionnaire which consists of fifty five (55) questions structured to elicit information on socio demographic characteristics of mothers, infant's vital information, mother's knowledge of breastfeeding, pregnancy and delivery history, breastfeeding practices and attitude of mothers. The questionnaire was developed in English thereafter translated in Yoruba for easy use since the majority of the target population speaks Yoruba, which is their traditional language. The questions were designed to allow mothers to express their ideas on various issues related to infant breastfeeding.

3.2 Operational Definitions of Variables

3.2.1 Independent Variables

Mother's age: Age of mother at the time of survey, in completed years (Interval).

Parity: Number of total births (live births and still births) that a respondent had delivered (Ordinal).

Sex of the child: Sex of the index child as male or female (Nominal).

Birth order of the child: Order of birth of an index child born by respondent .It is categorized as first, second, third and fourth and above (Ordinal).

Age at first birth: Age of mother at the time of delivery of her first child, in completed years (Interval).

Mother's Education: Highest educational level attained by mother. It is categorized by below primary, below secondary and secondary and above (Categorical).

Mother's Occupation: Current job of mother as a major source of income. It is categorized as self-employed, formal employment, non-formal employment (Categorical).

Father's Education: Highest educational level attained by father. It is categorized by below primary, below secondary and secondary and above (Categorical).

Father's Occupation: Current job of father as a major source of income. It is categorized as self-employed, formal employment, non-formal employment (Categorical).

Antenatal Visits: Number of antenatal care that the women received before the birth of an index child from any health personnel (doctor, nurse, midwife, TBA etc) (Ratio).

Place of Delivery: A place in which an index child was delivered. It is categorized as at home, Public / Government (hospital, health centre, health post); and Private health facility (Nominal).

Mode of Delivery: The way a mother gives birth. It can be natural or operational (caesarean). It is categorised as vaginal delivery, assisted delivery or caesarean (Nominal)

Advice from health personnel: Advice given to mother about benefits of breastfeeding by health personnel (doctor, nurse, midwife, TBA etc.). It is categorized as received advice or not received (Nominal).

3.2.2 Dependent Variable

Duration of Breast-Feeding: The periods between initiation of breastfeeding to the time baby does not receive breast milk anymore. Within these period other variables that were measured includes;

a. Exclusive Breastfeeding: this dependent variable is measured as a proportion of mothers who breastfed their infants exclusively for the first six months of life. Mother of infants who were over 6 months old were asked various questions to determine if they exclusively breastfed their infants or not.
b. Complementary Feeding: this variable is measured as a proportion of mothers who has given their breastfed infant one or more fluid feeds, including infant formula. (Expressed breast milk is considered a complementary feed)
c. Knowledge and Attitude towards breastfeeding: mothers were asked about their knowledge about breastfeeding practices before and after delivery, their sources of information and questions on their attitude towards breastfeeding practices were obtained during the research.

3.3 Training of Research Assistants

Three female research assistants were recruited for data collection exercise. Onsite training was conducted for the research assistants with the aim of making them understand what was to be done and also to familiarize with the aim of study and terms used in infant feeding. During the training they were taught on ethics of the study.

3.4 Procedure of Collecting Data

Information from respondent was collected using the questionnaire. Mothers were first asked for their consent to participate in the study. Upon agreeing to participate in the study, a questionnaire was administered on current and previous (recalled) infant feeding practices and responses were recorded. A total of 403 women were interviewed, where each interview took about 10 to 15 minutes depending on the mother's speed of replying and calmness of the infant.

3.5 Data Processing and Analysis

Data was edited for accuracy, readability, consistence and completeness; thereafter it was coded and entered into a computer using software SPSS (Statistical Package for the Social Science) version 16.0. First, Univariate analysis was done to determine various proportions, including: proportion of sample women, who practices exclusive breastfeeding, supplementary feeding, initiation of breastfeeding and other variables. Bivariate analysis was done to measure association between the dependent variable which is exclusive breastfeeding and the independent variables. Variables which showed significant association ($p<0.05$) to the dependent variable were further analysed in logistic regression model to identify factors that had true association with exclusive breastfeeding.

Data collected from in-depth interview was transcribed from Yoruba to English. The interview was read several times to clear any ambiguity. Data was then coded and were then presented according to their relation to study objectives.

3.6 Ethical Consideration

All ethical dimensions in this study were of utmost interest. The study thus obtained an ethical approval from Oyo State Research Ethical Review Committee, Ministry of Health, Secretariat, Ibadan, prior to the collection of data.

3.6.1 Confidentiality of the data

All information collected in this study was coded with numbers and not names of study participants were used to maintain confidentiality. The numbers cannot be linked to the participants in any way and names and any identifier will not be used in any publication or reports from this study. The questionnaires were kept in a locked cupboard: the data entered on the computer was password protected and is accessible to the researcher only.

3.6.2 Beneficence to patients

This study had no direct or immediate benefits for participants. It was however, envisaged that by carrying out this study, this research's outcome will help to define the most important questions that would inform public health policy in that local government area. It will also contribute to the growing body of scientific knowledge on how to design and situate health interventions in the community.

3.6.3 Non Maleficence of patients

The study was non-invasive and without any harm to the participants.

3.6.4 Translation of protocols

The study purpose, risks and benefits were explained in the local language (Yoruba). Full disclosure about the study was again made to participants and their respective concerns were also addressed accordingly.

3.6.5 Voluntariness

In order to achieve consent, the researcher and the research assistants introduced themselves to each subject and subsequently enquired about their welfare and their children in line with the customary greetings of the people. This consent seeking process was devoid of all traces of deception and exploitation. Participants were asked to participate voluntarily and were also free to withdraw from the study at any time.

3.7 Study Limitations

The study had a number of limitations. The study subjects were those attending Adeoyo Maternity Hospital, Yemetu Ibadan, which is not a representative of the general population of nursing mothers. Moreover, there is possibility that the responses of the study subjects were biased. The responses as regards to infant feeding practices could have been as a result of social desirability. This was overcome by explaining the purpose of the study clearly to the study participants and by assuring them that no matter the type of feeding a mother practiced, no negative consequence will befall her as a result of her practice. Moreover, recall bias as to what a mother could have fed the baby throughout infancy period.

RESULT

The results presented in this chapter include percentage distribution of sample women by selected characteristics, percentage distribution of breast-feeding practices including initiation of breast-feeding and introduction of supplementary feeds, awareness, knowledge and practice of exclusive breastfeeding, frequency distribution of attitude of mothers toward breastfeeding practices, bivariate analysis and regression analysis.

4.1 Univariate Analysis

4.1.1 Description of sample women by selected characteristics

Table 4.1.1 presents percentage distribution of sample women by selected characteristics. The mean age of mothers was 27.9 years (SD 5.5 years). Most of the women in the sample are in age group 25 – 34 years (52.6 per cent). Over half (76 per cent) had up to 2 children whereas women having more than 4 children constitute about 8 per cent. Nearly all the sample women are Yorubas (mostly due to location where research was carried out), and half of the sample women are Islam by religion.

By socioeconomic characteristics, over half of the sample women and their husbands have secondary level of education. A high percentage of the women reported to be self-employed. However, about 13 per cent of the women had formal employment and only about 8 per cent had no formal employment.

This research revealed about 95 per cent of sample women received antenatal care during pregnancy of their last child. Among them, 62 per cent received more than 6 times

throughout pregnancy whereas only about 5 per cent did not receive such care. In addition, about 87 per cent of these women delivered in a health facility and also vaginally and about 92 per cent of them received advice on breast-feeding.

Table 4.1.1: Distribution of Sample Women by selected characteristics

Characteristics	Number (N =403)	Percentage
Women's Age		
15-24	130	32.3
25-34	212	52.6
≥35	61	15.1
Parity		
1	188	46.7
2	116	28.8
3	69	17.1
≥4	30	7.4
Ethnicity		
Yoruba	381	94.5
Hausa	9	2.2
Igbo	13	3.2
Religion		
Christianity	197	48.9
Islam	203	50.4
Traditional	3	0.7
Age at first birth		
15-24	212	52.6
25-34	179	44.4
≥ 35	12	3.0
Education of women		
≤primary	37	9.2
secondary	272	67.5
≥ tertiary	94	23.3
Husband's education		
≤primary	54	13.4
secondary	236	58.6
≥ tertiary	113	28.0
Women's Occupation		
Self employed	318	78.9
Formal employment	52	12.9
Non formal employment	33	8.2
Husband's Occupation		
Self employed	315	78.2
Formal employment	72	17.9
Non formal employment	16	4.0
No. of Antenatal Visits		
no visit	21	5.2
1-3 times	42	10.4
4-6 times	90	22.3
>6 times	250	62.0
Place of delivery		
At home	17	4.2
Public health facility	237	58.8
Private health facility	112	27.8
Mission home	25	6.2
Church	12	3.0
Mode of delivery		
Vaginal delivery	356	88.3
Assisted forceps delivery	26	6.5
Caesarean section	21	5.2
Receive advice on breastfeeding		
No	34	8.4
Yes	369	91.6

4.1.2 Description of Ever breastfed women by selected characteristics

Percentage distribution of sample women who had ever breastfed their babies are presented in Table 4.1.2. In general, 98.3 per cent of women in this local government at the time of this research had ever breastfed their last child whereas 1.7 per cent of sample women had never breastfed their last child at all. Among women who delivered vaginally over 98 per cent of them had ever breastfed their babies, whereas only 90 per cent of those that delivered through caesarean section did so. Therefore, difference in practice of breastfeeding by mode of childbirth differential still exists. Breastfeeding should be encouraged to become universal in Ibadan North Local Government especially among women that give birth through caesarean section.

The lowest proportion of women who had ever breastfed are older women (35 years and above). It means the older women practiced breast-feeding less compared to the younger women. Regarding parity, the proportion of women who had ever breastfed is the greatest among women having four or more children.

In education, women with higher education had breastfed the least. The percentage of women who had ever breastfed is greatest among those with primary education or less. Almost the same finding is observed in husband's education. Therefore, in Ibadan North Local Government, parental education seems to have a negative effect on practice of breast-feeding.

As expected, there is a marked difference in breast-feeding among women with different occupation. Result shows that women who have formal employment breastfed the least (96 per cent compared to 98 per cent for women who are self-employed). Women with no formal employment breastfed the most (these category include mostly full house wives).

When considering health care services, women who had received advice on breast feeding from health personnel during post-partum period breastfed less than those who did not receive it, this may be due to distraction through side talks during breastfeeding practice lectures and also women who did not receive may have external support and encouragement from friends and family and women who gave birth in private health facility breastfed the least. However, it is surprising that women who did not receive antenatal care and those who visited less than 6 times had breastfed more than those who visited more than 6 times. It is likely that although some did not visit antenatal clinic, they may be informed about benefits of breast-feeding by traditional birth attendants and also by support from family members.

Table 4.1.2: Distribution of women who had breastfed children

Characteristics	Total	Ever breastfed (percentage)
Women's Age		
15-24	130 (100.0%)	130 (100.0%)
25-34	212 (100.0%)	210 (99.1%)
≥ 35	61 (100.0%)	56 (91.8%)
Parity		
1	188 (100.0%)	187 (99.5%)
2	116 (100.0%)	115 (99.1%)
3	69 (100.0%)	64 (92.8%)
≥4	30 (100.0%)	30 (100.0%)
Age at first birth		
15-24	212 (100.0%)	212 (100.0%)
25-34	179 (100.0%)	173 (96.6%)
≥ 35	12 (100.0%)	11 (91.7%)
Education of women		
≤primary	37 (100.0%)	37 (100.0%)
secondary	272 (100.0%)	267 (98.2%)
≥ tertiary	94 (100.0%)	92 (97.9%)
Husband's education		
≤primary	54 (100.0%)	54 (100.0%)
secondary	236 (100.0%)	231 (97.9%)
≥ tertiary	113 (100.0%)	111 (98.2%)
Women's Occupation		
Self employed	318 (100.0%)	313 (98.4%)
Formal employment	52 (100.0%)	50 (96.2%)
Non formal employment	33 (100.0%)	33 (100.0%)
Husband's Occupation		
Self employed	315 (100.0%)	310 (98.4%)
Formal employment	72 (100.0%)	70 (97.2%)
Non formal employment	16 (100.0%)	16 (100.0%)
No: of Antenatal Visits		
no visit	21 (100.0%)	21 (100.0%)
1-3 time	42 (100.0%)	42 (100.0%)
4-6 times	90 (100.0%)	90 (100.0%)
>6 times	250 (100.0%)	243 (97.2%)
Place of delivery		
At home	17 (100.0%)	17 (100.0%)
Public health facility	237 (100.0%)	236 (99.6%)
Private health facility	112 (100.0%)	106 (94.6%)
Mission home	25 (100.0%)	25 (100.0%)
Church	12 (100.0%)	12 (100.0%)
Mode of delivery		
Vaginal delivery	356 (100.0%)	351 (98.6%)
Assisted forceps delivery	26 (100.0%)	26 (100.0%)
Caesarean section	21 (100.0%)	19 (90.5%)
Receive advice on breastfeeding		
No	34 (100.0%)	34 (100.0%)
Yes	369 (100.0%)	362 (98.1%)

4.1.3 Initiation of breast-feeding

About 73 percent of sample women initiated breast-feeding immediately after birth and about 22 percent put their babies to breast within 24 hours of delivery. On the second day after delivery 5.5 per cent of sample women initiated breastfeeding. Almost 90 percent of new-borns received colostrum within 24 hours after birth (not presented in the table). Therefore, initiation of breast-feeding in Ibadan North Local Government can be considered satisfactory.

Table 4.1.3.1: Timing of initiation of breastfeeding

Timing	Number	Percentage
Immediately	293	72.7
Within 24 hours	88	21.8
On the second day	22	5.5
Total	**403**	**100.0**

Table 4.1.3.2: Timing of initiation of breastfeeding by selected characteristics

Characteristics	Total	Immediately	Within 24 Hours	Second Day
Women's Age				
15-24	130 (100.0%)	112 (86.2%)	14 (10.8%)	4 (3.1%)
25-34	212 (100.0%)	136(64.2%)	60 (28.3%)	16 (7.5%)
≥35	61 (100.0%)	45 (73.8%)	14 (23.0%)	2 (3.3%)
Parity				
1	188 (100.0%)	145 (77.1%)	37 (19.7%)	6 (3.2%)
2	116 (100.0%)	74 (63.8%)	29 (25.0%)	13 (11.2%)
3	69 (100.0%)	49 (71.0%)	18 (26.1%)	2 (2.9%)
≥4	30 (100.0%)	25 (83.3%)	4 (13.3%)	1 (3.3%)
Age at first birth				
15-24	212 (100.0%)	170 (80.2%)	31 (14.6%)	11(5.2%)
25-34	179 (100.0%)	115 (64.2%)	54 (30.2%)	10 (5.6%)
≥ 35	12 (100.0%)	8 (66.7%)	3 (25.0%)	1 (8.3%)
Education of women				
≤primary	37 (100.0%)	35 (94.6%)	1 (2.7%)	1 (2.7%)
secondary	272 (100.0%)	201 (73.9%)	58 (21.3%)	13 (4.8%)
≥ tertiary	94 (100.0%)	57 (60.6%)	29 (30.9%)	8 (8.5%)
Husband's education				
≤primary	54 (100.0%)	48 (88.9%)	5 (9.3%)	1 (1.9%)
secondary	236 (100.0%)	182 (77.1%)	44 (18.6%)	10 (4.2%)
≥ tertiary	113 (100.0%)	63 (55.8%)	39 (34.5%)	11 (9.7%)
Women's Occupation				
Self employed	318 (100.0%)	232 (73.0%)	66 (20.8 %)	20 (6.3%)
Formal employment	52 (100.0%)	32 (61.5%)	18 (34.6%)	2 (3.8%)
Non formal employment	33 (100.0%)	29 (87.9%)	4 (12.1%)	0 (0.0%)
Husband's Occupation				
Self employed	315	243 (77.1%)	57 (18.1 %)	15 (4.8%)
Formal employment	72	40 (55.6%)	26 (36.1%)	6 (8.3%)
Non formal employment	16	10 (62.5%)	5 (31.2%)	1 (6.2%)
No: of Antenatal Visits				
no visit	21 (100.0%)	20 (95.2%)	1 (4.8%)	0 (0.0%)
1-3 times	42 (100.0%)	37 (88.1%)	3 (7.1%)	2 (4.8%)
4-6 times	90 (100.0%)	70 (77.8%)	16 (17.8%)	4 (4.4%)
>6 times	250 (100.0%)	166 (66.4%)	68 (27.2%)	16 (6.4%)
Place of delivery				
At home	17 (100.0%)	12 (70.6%)	3 (17.6%)	2 (11.8%)
Public health facility	237 (100.0%)	172 (72.6%)	52 (21.9%)	13 (5.5%)
Private health facility	112 (100.0%)	77 (68.8%)	30 (26.8%)	5 (4.5%)
Mission home	25 (100.0%)	20 (80.0%)	3 (12.0%)	2 (8.0%)
Church	12 (100.0%)	12 (100.0%)	0 (0.0%)	0 (0.0%)
Mode of delivery				
Vaginal delivery	356 (100.0%)	263 (73.9%)	76 (21.3%)	17 (4.8%)
Assisted forceps delivery	26 (100.0%)	19 (73.1%)	5 (19.2%)	2 (7.7%)
Caesarean section	21 (100.0%)	11 (52.4%)	7 (33.3%)	3 (14.3%)
Receive advice on breastfeeding				
No	34 (100.0%)	28 (82.4%)	5 (14.7%)	1 (2.9%)
Yes	369 (100.0%)	265 (71.8%)	83 (22.5%)	21 (5.7%)

Table 4.1.3.2 shows percentage distribution of sample women who initiated breast-feeding at different timing with selected characteristics. The younger women of ages below 25 years tend to put their babies to breast immediately after birth compared to the older women, initiation of breast-feeding immediately after birth decrease with increase in parity.

In education, the highest proportion of women who initiated breastfeeding immediately after birth are women who have primary or less than primary education (94.6%), therefore the higher the level of education the lesser the initiation of breast-feeding immediately after birth. The same finding is observed in husband education. In occupation, women who are not employed and that their husbands self-employed initiates breastfeeding immediately (87.9 per cent and 77.1 per cent respectively), only 55.6 per cent of husband and 61.5 per cent of women who are formally employed did so.

As expected, women who gave birth through caesarean section least initiated breastfeeding immediately after birth. It may be due to the fact that after birth, most women might still be unconscious which may hinder early initiation.

4.1.4 Duration of breast-feeding

Among the 403 sample women, only 218 of them responded to the overall duration, this is because the remaining 185 are still breastfeeding their first and only child and therefore, cannot give a valid response for duration of breastfeeding of index child. Of the overall 188 women with 1 child, only 3 had completed breastfeeding their index child at the time of this research.

Majority of the sample women breastfed within 13 – 18 months, while within these months, result shows that of the 46.8 per cent of women who breastfeed for 13 – 18 months, the highest percentage (37.6 per cent) of women completely stopped breastfeeding at 18 months (figure not in table). This has not met up to the WHO standard of breastfeeding practice. The WHO recommends that infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues up to two years of age or beyond" (WHO, 2003).

Table 4.1.4: Duration of breast-feeding by selected characteristics

Characteristics	Total	≤ 6months	≤ 12months	≤ 18months	≤24months
Age					
15-24	22 (100.0%)	1 (4.5%)	2 (9.1%)	11 (50.0%)	8 (36.4%)
25-34	141 (100.0%)	2 (1.4%)	27 (19.1%)	58 (41.1%)	54 (38.3%)
≥35	55 (100.0%)	0 (0.0%)	3 (5.5%)	33 (60.0%)	19 (34.5%)
Parity					
1	3 (100.0%)	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0.0%)
2	116 (100.0%)	2 (1.7%)	17 (14.7%)	49 (42.2%)	48 (41.4%)
3	69 (100.0%)	0 (0.0%)	11 (15.9%)	38 (55.1%)	20 (29.0%)
≥4	30 (100.0%)	0 (0.0%)	3 (10.0%)	14 (46.7%)	13 (43.3%)
Sex of child					
Male	80 (100.0%)	0 (0.0%)	8 (10.0%)	44 (55.0%)	28 (35.0%)
Female	138 (100.0%)	3 (2.2%)	24 (17.4%)	58 (42.0%)	53 (38.4%)
Birth Order					
1	85 (100.0%)	3 (3.5%)	15 (17.6%)	35 (41.2%)	32 (37.6%)
2	73 (100.0%)	0 (0.0%)	9 (12.3%)	36 (49.3%)	28 (38.4%)
3	44 (100.0%)	0 (0.0%)	7 (15.9%)	24 (54.5%)	13(29.5%)
≥4	16 (100.0%)	0 (0.0%)	1 (6.2%)	7 (43.8%)	8 (50.0%)
Age at first birth					
15-24	102 (100.0%)	3 (2.9%)	13 (12.7%)	49 (48.0%)	37 (36.3%)
25-34	110 (100.0%)	0 (0.0%)	18 (16.4%)	50 (45.5%)	42 (38.2%)
≥35	6 (100.0%)	0 (0.0%)	1 (16.7%)	3 (50.0%)	2 (33.3%)
Women's education					
≤primary	26 (100.0%)	0 (0.0%)	2 (7.7%)	15 (57.7%)	9 (34.6%)
secondary	139 (100.0%)	2 (1.4%)	25 (18.0%)	61 (43.9%)	51 (36.7%)
≥ tertiary	53 (100.0%)	1 (1.9%)	5 (9.4%)	26 (49.1%)	21 (39.6%)
Husband's education					
≤primary	35 (100.0%)	2 (5.7%)	3 (8.6%)	19 (54.3%)	11 (31.4%)
secondary	123 (100.0%)	1 (0.8%)	24 (19.5%)	58 (47.2%)	40 (32.5%)
≥ tertiary	60 (100.0%)	0 (0.0%)	5 (8.3%)	25 (41.7%)	30 (50.0%)
Women's Occupation					
Self employed	174 (100.0%)	2 (1.1%)	27 (15.5%)	80 (46.0%)	65 (37.4%)
Formal employment	35 (100.0%)	0 (0.0%)	2 (5.7%)	19 (54.3%)	14 (40.0%)
Non formal employment	9 (100.0%)	1 (11.1%)	3 (33.3%)	3 (33.3%)	2 (22.2%)
Husband's Occupation					
Self employed	171 (100.0%)	2 (1.2%)	30 (17.5%)	81 (47.4%)	58 (33.9%)
Formal employment	40 (100.0%)	1 (2.5%)	2 (5.0%)	15 (37.5%)	22 (55.0%)
Non formal employment	7 (100.0%)	0 (0.0%)	0 (0.0%)	6 (85.7%)	1 (14.3%)
No. of Antenatal Visits					
no visit	9 (100.0%)	0 (0.0%)	2 (22.2%)	2 (22.2%)	5 (55.6%)
1 - 3time	21 (100.0%)	0 (0.0%)	4 (19.0%)	11 (52.4%)	6 (28.6%)
4 - 6times	49 (100.0%)	2 (4.1%)	8 (16.3%)	25 (51.0%)	14 (28.6%)
> 6times	139 (100.0%)	1 (0.7%)	18 (12.9%)	64 (46.0%)	56(40.3%)
Place of delivery					
At home	13 (100.0%)	0 (0.0%)	2 (15.4%)	4 (30.8%)	7 (53.8%)
Public health facility	126 (100.0%)	3 (2.4%)	22 (17.5%)	56 (44.4%)	45 (35.7%)
Private health facility	62 (100.0%)	0 (0.0%)	5 (8.1%)	36 (58.1%)	21 (33.9%)
Mission home	12 (100.0%)	0 (0.0%)	3 (25.0%)	5 (41.7%)	4 (33.3%)
Church	5 (100.0%)	0 (0.0%)	0 (0.0%)	1 (20.0%)	4 (80.0%)
Mode of delivery					
Vaginal delivery	192 (100.0%)	2 (1.0%)	29 (15.1%)	88 (45.8%)	73 (38.0%)
Assisted forceps delivery	11 (100.0%)	1 (9.1%)	1 (9.1%)	5 (45.5%)	4 (36.4%)
Caesarean section	15 (100.0%)	0 (0.0%)	2 (13.3%)	9 (60.0%)	4 (26.7%)
Advice on breast-feeding					
No	13 (100.0%)	0 (0.0%)	3 (23.1%)	4 (30.8%)	6 (46.2%)
Yes	205 (100.0%)	3 (1.5%)	29 (14.1%)	98 (47.8%)	75 (36.6%)

4.1.5 Introduction of complementary foods

Overall, about 55 per cent of mothers introduced complementary foods to their babies within 6 - 8 months which is half of the nursing mothers (not presented in the table). Half of women attending Adeoyo Hospital in Ibadan North Local Government followed the WHO's recommendation to breast infants up to 6 months after birth while the other half did not. Therefore, health education concerning advantage of exclusive breast-feeding should be emphasized.

Table 4.1.5 shows that according to the selected characteristics, a higher percentage of younger women aged 15 – 24tend to introduce complementary feeding within 5 months. Regarding parity, about 90 per cent of primiparae introduced complementary feeding early compared to multiparae. It is likely that these women might not have experience of infant feeding compared to multiparae. Result in this study shows that sex of a child does not determine how a mother introduce complementary food. Early introduction of complementary food is seen for majority of children who are first order births.

However, there is a consistent finding that educational attainment of parents has negative effect on infant feeding. A higher percentage of children whose parent have less than primary education gave complementary feeds from 6 months after birth.

This research shows that mothers who have no formal employment introduce complementary feeds within 5 months (72 per cent), this might be due to their involvement in other activities (group includes students and full house wives); probably the problem of job opportunity made some of them to become full house wives thereby limiting the duration of breastfeeding of their children while joggling between finding a job and keeping the home or in other cases mothers (like students) might deny their children of exclusive breastfeeding due to the excuse

that they do not like the idea of breastfeeding their children outside the house, thus substituting the breast milk with formula feeds.

Regarding health care services, over 57 per cent of women who did not receive antenatal care introduced complementary feeds earlier. It is likely that they did not receive health education on advantages of breast-feeding from antenatal clinics.

Table 4.1.5: Timing of Introduction of complementary feeding by selected variables

Characteristics	Total	Within 5 months	6-8 months	9-12 months
Age				
15-24	130 (100.0%)	99 (76.2%)	31 (23.8%)	0 (0.0%)
25-34	212 (100.0%)	64 (30.2%)	142 (67.0%)	6 (2.8%)
≥ 35	61 (100.0%)	6 (9.8%)	49 (80.3%)	6 (9.8%)
Parity				
1	188 (100.0%)	168 (89.4%)	20 (10.6%)	0 (0.0%)
2	116 (100.0%)	1 (0.9%)	108 (93.1%)	7 (6.0%)
3	69 (100.0%)	0 (0.0%)	66 (95.7%)	3 (4.3%)
≥4	30 (100.0%)	0 (0.0%)	28 (93.3%)	2 (6.7%)
Sex of child				
Male	156 (100.0%)	69 (44.2%)	84 (53.8%)	3 (1.9%)
Female	247 (100.0%)	100 (40.5%)	138 (55.9%)	9 (3.6%)
Birth Order				
1	270 (100.0%)	169 (62.6%)	97 (35.9%)	4 (1.5%)
2	73 (100.0%)	0 (0.0%)	70 (95.9%)	3 (4.1%)
3	44 (100.0%)	0 (0.0%)	40 (90.9%)	4 (9.1%)
≥4	16 (100.0%)	0 (0.0%)	15 (93.8%)	1 (6.2%)
Age at first birth				
15-24	212 (100.0%)	101 (47.6%)	106 (50.0%)	5 (2.4%)
25-34	179 (100.0%)	62 (34.6%)	111 (62.0%)	6 (3.4%)
≥ 35	12 (100.0%)	6 (50.0%)	5 (41.7%)	1 (8.3%)
Women's education				
≤primary	37 (100.0%)	10 (27.0%)	26 (70.3%)	1 (2.7%)
secondary	272 (100.0%)	120 (44.1%)	145 (53.3%)	7 (2.6%)
≥ tertiary	94 (100.0%)	39 (41.5%)	51 (54.3%)	4 (4.3%)
Husband's education				
≤primary	54 (100.0%)	19 (35.2%)	33 (61.1%)	2 (3.7%)
secondary	236 (100.0%)	103 (43.6%)	126 (53.4%)	7 (3.0%)
≥ tertiary	113 (100.0%)	47 (41.6%)	63 (55.8 %)	3 (2.7%)
Women's Occupation				
Self employed	318 (100.0%)	130 (40.9%)	179 (56.3%)	9 (2.8%)
Formal employment	52 (100.0%)	15 (28.8%)	34 (65.4%)	3 (5.8%)
Non formal employment	33 (100.0%)	24 (72.7%)	9 (27.3%)	0 (0.0%)
Husband's Occupation				
Self employed	315 (100.0%)	134 (42.5%)	172 (54.6%)	9 (2.9%)
Formal employment	72 (100.0%)	29 (40.3%)	40 (55.6%)	3 (4.2%)
Non formal employment	16 (100.0%)	6 (37.5%)	10 (62.5%)	0 (0.0%)
No. of Antenatal Visits				
no visit	21 (100.0%)	12 (57.1%)	9 (42.9%)	0 (0.0%)
1 - 3time	42 (100.0%)	19 (45.2%)	22 (52.4%)	1 (2.4%)
4 - 6times	90 (100.0%)	39 (43.3%)	49 (54.4%)	2 (2.2%)
>6times	250 (100.0%)	99 (39.6%)	142 (56.8%)	9 (3.6%)
Place of delivery				
At home	17 (100.0%)	4 (23.5%)	13 (76.5 %)	0 (0.0%)
Public health facility	237 (100.0%)	99 (41.8%)	134 (56.5%)	4 (1.7%)
Private health facility	112 (100.0%)	46 (41.1%)	58 (51.8%)	8 (7.1%)
Mission home	25 (100.0%)	13 (52.0%)	12 (48.0%)	0 (0.0%)
Church	12 (100.0%)	7 (58.3%)	5 (41.7%)	0 (0.0%)
Mode of delivery				
Vaginal delivery	356 (100.0%)	148 (41.6%)	198 (55.6%)	10 (2.8%)
Assisted forceps delivery	26 (100.0%)	15 (57.7%)	10 (38.5%)	1 (3.8%)
Caesarean section	21 (100.0%)	6 (28.6%)	14 (66.7%)	1 (4.8%)
Advice on breastfeeding				
No	34 (100.0%)	20 (58.8%)	14 (41.2%)	0 (0.0%)
Yes	369 (100.0%)	149 (40.4%)	208 (56.4%)	12 (3.3%)

4.1.6 Awareness, Knowledge and Practice of Exclusive Breastfeeding

This research shows that only 65.8 per cent of mothers attending Adeoyo Hospital have heard of exclusive breastfeeding. This means that majority of the mothers are aware of exclusive breastfeeding but awareness cannot determine whether the really know what exclusive breastfeeding means and if they practiced it (Table 4.1.6).

About 60 per cent of women know that exclusive breastfeeding (EBF) is feeding infant with breast milk only directly from the breast for 6 months, 4.7 per cent of them said that EBF is the feeding that helps a child's growth, 0.2 per cent of nursing mothers said EBF serves as family planning while 0.5 per cent of them said EBF makes a child to be brilliant and protects a child from diseases, 1 per cent of mothers who agreed to have ever heard of EBF said that EBF is breastfeeding without water, 0.2 per cent also agreed that EBF is breastfeeding regularly without bottle feeding.

Overall about 7 per cent of women who agreed to have ever heard of exclusive breastfeeding do not have the comprehensive knowledge of what EBF means.

About 35 per cent of women attending Adeoyo Hospital have never heard of exclusive breast feeding. These women either didn't attend antenatal clinics or during their visit they were distracted and not paying attention in the lectures given at the antenatal clinic.

Although majority of the women has heard of exclusive breastfeeding (65.8 per cent) and a higher proportion (59.1 per cent) of the women also knows what EBF means but their knowledge does not correspond with their practice which is shown in Table 4.1.6, only 28.5 per cent of nursing mothers attending Adeoyo hospital exclusively breastfed their infant.

A high proportion (71.5 percent) of nursing mothers did not practice exclusive breastfeeding. The practise of exclusive breast feeding is still very poor among nursing mothers, 28.5 per cent of mothers' practised exclusive breastfeeding, this may be due to so many factors which are been analysed in this research

Table 4.1.6: Awareness, Knowledge and Practice of Exclusive Breastfeeding

Awareness of Exclusive Breastfeeding		**Number (N=403)**	**Percentage**
Ever heard of exclusive breastfeeding	Yes	265	65.8
	No	138	34.2
Knowledge of Exclusive Breastfeeding		**Number (N=403)**	**Percentage**
Feeding infant with breast milk only directly from the breast for 6 months		238	59.1
A type of feeding that helps a child's growth		19	4.7
Serves as family planning		1	0.2
Makes a child to be brilliant and protects a child from diseases		2	0.5
Breastfeeding without water		4	1.0
Breastfeeding regularly without bottle feeding		1	0.2
I have never heard of exclusive breastfeeding		138	34.2
Practice of Exclusive Breastfeeding		**Number (N=403)**	**Percentage**
Exclusive breastfeeding practice	Yes	115	28.5
	No	288	71.5

4.1.7 Frequency Distribution of Nursing Mother Attitude towards Breastfeeding Practices

Over 94 per cent of nursing mothers jointly agree that women should breastfeed immediately after delivery, while 4 per cent of them are neutral(i.e. not sure) if women should breastfeed immediately after delivery. About 83 per cent of mothers agree that women are not usually embarrassed anytime they breastfeed, while over 6 per cent still believe that women are usually embarrassed anytime they breastfeed. About 75 per cent of nursing mothers jointly agree that women do breastfeed even when they have to go to work or school, while over 23 per cent are not sure if women should breastfeed even when they have to go to work or school. Over 73 per cent of mothers agree that women do breastfeed even when they have many household responsibilities, while over 24 per cent of them are not sure if women should breastfeed even when they have many household responsibilities, some of the mothers (2.2 per cent) jointly disagree that women should breastfeed even when they have many household responsibilities. A higher proportion of nursing mothers (92.6 per cent) jointly agree that breastfeeding is carried out to ensure that the child grows, others are either neutral (6.2 per cent) or jointly disagree (1.2 per cent).

Only about 7 per cent of nursing mothers jointly disagree that infant formula contains antibodies that protect against diseases, especially against diarrhoea, respiratory and ear infections. A higher proportion of them(73.7 per cent) agree that infant formula contains antibodies that protect against diseases, especially against diarrhoea, respiratory and ear infections, whereas, this is wrong because breast milk only contains such antibodies while about 20 per cent of the nursing mothers are not sure. A higher proportion of mothers agree that mixed feeding (meaning breastfeeding and giving other foods and drinks) before six months can cause diarrhoea, respiratory and ear infections and that If a baby is breastfed he

or she will be less likely to get diarrhoea (73.9 per cent and 90.8 per cent respectively) while others are either not sure (17.4 per cent and 3.7 per cent respectively) or disagree (8.7 per cent and 5.5 per cent respectively).

A higher percentage of mothers (about 66 per cent) jointly agree that their husband and family members encourage them to breastfeed, some are neutral (over 29 per cent), while others disagree (over 4 per cent). About 53 per cent of agree that breastfeeding does not allow the body to get back to shape quickly, 30 per cent are neutral and over 17 per cent of them disagree with the idea. Over 82 per cent of nursing mothers agree that ill health can affect breastfeeding practices, about 11 per cent of them are not sure, and about 7 per cent of them disagree. A higher proportion of nursing mothers (91.4 per cent) jointly agree that during antenatal visits, health education is always reviewed, while others are either not sure (6.2 per cent); probably they didn't visit antenatal clinic at all or jointly disagree (2.4 per cent); probably these mothers didn't pay attention to talks during antenatal visit.

Table 4.1.7: Frequency Distribution of Nursing Mother Attitude towards Breastfeeding Practices

MOTHER'S ATTITUDE TOWARDS BREASTFEEDING PRACTICES	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Breastfeed immediately after delivery	228 (56.6%)	151 (37.5%)	16 (4.0%)	3 (0.7%)	5 (1.2%)
Breastfeeding embarrasses women	114 (28.3%)	219 (54.3%)	45 (11.2%)	14 (3.5%)	11 (2.7%)
Breastfeed despite going to work or school	96 (23.8%)	206 (51.1%)	93 (23.1%)	6 (1.5%)	2 (0.5%)
Breastfeed despite household responsibilities	113 (28.0%)	183 (45.4%)	98 (24.3%)	4 (1.0%)	5 (1.2%)
Breastfeeding ensure that the child grows	218 (54.1%)	155 (38.5%)	25 (6.2%)	2 (0.5%)	3 (0.7%)
Infant formula guarantees child immunity	107 (26.6%)	190 (47.1%)	79 (19.6%)	11 (2.7%)	16 (4.0%)
Early supplementation can cause infant's ill health	92 (22.8%)	206 (51.1%)	70 (17.4%)	19 (4.7%)	16 (4.0%)
Breastfeeding prevents diarrhoea	194 (48.1%)	172 (42.7%)	15 (3.7%)	9 (2.3%)	13 (3.2%)
Husbands encourage breastfeeding	100 (24.8%)	166 (41.2%)	120 (29.8%)	12 (3.0%)	5 (1.2%)
Family members encourage women to breastfeed	104 (25.8%)	163 (40.4%)	118 (29.3%)	13 (3.2%)	5 (1.2%)
Breastfeeding makes body shapeless	63 (15.6%)	149 (37.0%)	121 (30.0%)	26 (6.5%)	44 (10.9%)
Ill health can affect breastfeeding practice	130 (32.3%)	201 (49.9%)	44 (10.9%)	10 (2.4%)	18 (4.5%)
During antenatal visit, health education is always reviewed	159 (39.5%)	209 (51.9%)	25 (6.2%)	5 (1.2%)	5 (1.2%)

4.2 Bivariate Analysis

4.2.1 Relationship between Duration of Breastfeeding and Selected Characteristics

Among the three categories of factors affecting breastfeeding (demographic factors, socioeconomic factors and health service factors), association was with demographic factors and socioeconomic factors (Table 4.2.1).They include parity, husband's education and husband's occupation.

Parity shows highly significant association with duration of breastfeeding ($p<0.001$), therefore longer duration of breastfeeding can be associated with higher parity.

There was also significant association with husband's education (P-value = 0.022; CI = 14.833).

Occupation of husbands also shows significance with duration of breastfeeding (P-value = 0.044; CI = 12.965).

However, there is no significance between duration of breastfeeding and health service factors ($p > 0.05$).

Table 4.2.1 Relationship between duration of breastfeeding and selected characteristics

Characteristics	≤ 6months	≤ 12months	≤ 18months	≤ 24months	X^2	P-value
Age						
15-24	1 (4.5%)	2 (9.1%)	11 (50.0%)	8 (36.4%)		
25-34	2 (1.4%)	27 (19.1%)	58 (41.1%)	54 (38.3%)		
≥35	0 (0.0%)	3 (5.5%)	33 (60.0%)	19 (34.5%)	11.158	0.084
Parity						
1	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0.0%)		
2	2 (1.7%)	17 (14.7%)	49 (42.2%)	48 (41.4%)		
3	0 (0.0%)	11 (15.9%)	38 (55.1%)	20 (29.0%)		
≥4	0 (0.0%)	3 (10.0%)	14 (46.7%)	13 (43.3%)	29.822	<0.001
Sex of child						
Male	0 (0.0%)	8 (10.0%)	44 (55.0%)	28 (35.0%)		
Female	3 (2.2%)	24 (17.4%)	58 (42.0%)	53 (38.4%)	5.603	0.133
Birth Order						
1	3 (3.5%)	15 (17.6%)	35 (41.2%)	32 (37.6%)		
2	0 (0.0%)	9 (12.3%)	36 (49.3%)	28 (38.4%)		
3	0 (0.0%)	7 (15.9%)	24 (54.5%)	13 (29.5%)		
≥4	0 (0.0%)	1 (6.2%)	7 (43.8%)	8 (50.0%)	8.998	0.437
Age at first birth						
15-24	3 (2.9%)	13 (12.7%)	49 (48.0%)	37 (36.3%)		
25-34	0 (0.0%)	18 (16.4%)	50 (45.5%)	42 (38.2%)		
≥35	0 (0.0%)	1 (16.7%)	3 (50.0%)	2 (33.3%)	4.066	0.668
Women's education						
≤primary	0 (0.0%)	2 (7.7%)	15 (57.7%)	9 (34.6%)		
secondary	2 (1.4%)	25 (18.0%)	61 (43.9%)	51 (36.7%)		
≥ tertiary	1 (1.9%)	5 (9.4%)	26 (49.1%)	21 (39.6%)	4.465	0.614
Husband's education						
≤primary	2 (5.7%)	3 (8.6%)	19 (54.3%)	11 (31.4%)		
secondary	1 (0.8%)	24 (19.5%)	58 (47.2%)	40 (32.5%)		
≥ tertiary	0 (0.0%)	5 (8.3%)	25 (41.7%)	30 (50.0%)	14.833	0.022
Women's Occupation						
Self employed	2 (1.1%)	27 (15.5%)	80 (46.0%)	65 (37.4%)		
Fonnal employment	0 (0.0%)	2 (5.7%)	19 (54.3%)	14 (40.0%)		
Non formal employment	1 (11.1%)	3 (33.3%)	3 (33.3%)	2 (22.2%)	12.289	0.056
Husband's Occupation						
Self employed	2 (1.2%)	30 (17.5%)	81 (47.4%)	58 (33.9%)		
Fonnal employment	1 (2.5%)	2 (5.0%)	15 (37.5%)	22 (55.0%)		
Non formal employment	0 (0.0%)	0 (0.0%)	6 (85.7%)	1 (14.3%)	12.965	0.044
No: of Antenatal Visits						
no visit	0 (0.0%)	2 (22.2%)	2 (22.2%)	5 (55.6%)		
1 - 3time	0 (0.0%)	4 (19.0%)	11 (52.4%)	6 (28.6%)		
4 - 6times	2 (4.1%)	8 (16.3%)	25 (51.0%)	14 (28.6%)		
> 6times	1 (0.7%)	18 (12.9%)	64 (46.0%)	56 (40.3%)	8.531	0.482
Place of delivery						
At home	0 (0.0%)	2 (15.4%)	4 (30.8%)	7 (53.8%)		
Public health facility	3 (2.4%)	22 (17.5%)	56 (44.4%)	45 (35.7%)		
Private health facility	0 (0.0%)	5 (8.1%)	36 (58.1%)	21 (33.9%)		
Mission home	0 (0.0%)	3 (25.0%)	5 (41.7%)	4 (33.3%)		
Church	0 (0.0%)	0 (0.0%)	1 (20.0%)	4 (80.0%)	13.434	0.338
Mode of delivery						
Vaginal delivery	2 (1.0%)	29 (15.1%)	88 (45.8%)	73 (38.0%)		
Assisted forceps delivery	1 (9.1%)	1 (9.1%)	5 (45.5%)	4 (36.4%)		
Caesarean section	0 (0.0%)	2 (13.3%)	9 (60.0%)	4 (26.7%)	6.482	0.371
Advice on breastfeeding						
No	0 (0.0%)	3 (23.1%)	4 (30.8%)	6 (46.2%)		
Yes	3 (1.5%)	29 (14.1%)	98 (47.8%)	75 (36.6%)	1.914	0.590

4.2.2 Relationship between Exclusive Breastfeeding Practice and Selected Characteristics

There was highly significant association between exclusive breastfeeding practice and birth order ($p < 0.001$), therefore a higher proportion of children with higher birth order were exclusively breastfed (Table 4.2.2.1).

There was also significant association between exclusive breastfeeding practice and age of mother ($p < 0.001$), it can be concluded older women exclusive breastfeed their children compared to younger women.

Parity also showed significant association with exclusive breastfeeding practice ($p< 0.001$), therefore exclusive breastfeeding is associated with increase in parity.

Overall, the hypothesis that association between selected demographic variables and exclusive breastfeeding practice is accepted.

However, there is no statistically significant association between sex of child and exclusive breast-feeding practice ($p > 0.05$). Therefore, the hypothesis that most male children are exclusively breastfed than female children is not accepted. Sex of child does not determine if a child will be exclusively breastfed or not in Ibadan North Local Government Area.

Among socioeconomic factors, exclusive breastfeeding practice only shows significant association with education of women ($p < 0.05$). The hypothesis that associations between selected socioeconomic variables and exclusive breast-feeding practice is accepted. The finding leads to a conclusion that women who have less than primary education exclusively breastfeed the most.

There was no significant association ($p > 0.05$) with other socioeconomic factors (education of husbands, women's occupation and husband's occupation). Therefore, the hypothesis that practice of exclusive breastfeeding is associated with these factors is not accepted.

Exclusive breastfeeding practice shows no significant association with all health service factors ($p > 0.05$). The health service factors include number of antennal visit, place of delivery, mode of delivery and advice on breastfeeding.

Therefore, it cannot be concluded that exclusively breastfeeding a child is associated with women who had not visited the antenatal clinic, who also gave birth at home, who gave birth with caesarean section and women who received no advice on breastfeeding.

Table 4.2.2 Relationship between exclusive breast-feeding and selected characteristics

Characteristics	Exclusively breastfed Yes (%)	Exclusively breastfed No (%)	X^2	P-value
Sex of child				
Male	39 (25.0%)	117 (75.0%)		
Female	76 (30.8%)	171 (69.2%)	1.561	0.212
Birth Order				
First	49 (18.1%)	221 (81.9%)		
Second	32 (43.8%)	41 (56.2%)		
Third	24 (54.5%)	20 (45.5%)		
≥Fourth	10 (62.5%)	6 (37.5%)	46.313	< 0.001
Age of mother				
15-24	15 (11.5%)	115 (88.5%)		
25-34	76 (35.8%)	136 (64.2%)		
≥ 35	24 (39.3%)	37 (60.7%)	27.472	< 0.001
Parity				
1	5 (2.7%)	183 (97.3%)		
2	58 (50.0%)	58 (50.0%)		
3	34 (49.3%)	35 (50.7%)		
≥4	18 (60.0%)	12 (40.0%)	1.171E2	< 0.001
Age at first birth				
15-24	57 (29.9%)	155 (73.1%)		
25-34	56 (31.1%)	123 (68.7%)		
≥ 35	2 (16.7%)	10 (83.3%)	1.775	0.412
Women's Education				
≤primary	16 (43.2%)	21 (56.8%)		
secondary	66 (24.3%)	206 (75.7%)		
≥ tertiary	33 (35.1%)	61 (64.9%)	8.348	0.015
Husband's Education				
≤primary	21 (38.9%)	33 (61.1%)		
secondary	59 (25.0%)	177 (75.0%)		
≥ tertiary	35 (31.0%)	78 (69.0%)	4.614	0.100
Women's Occupation				
Self employed	86 (27.0%)	232 (73.0%)		
Formal employment	20 (38.5%)	32 (61.5%)		
Non formal employment	9 (27.3%)	24 (72.7%)	2.885	0.236
Husband's Occupation				
Self employed	89 (28.3%)	226 (71.7%)		
Formal employment	20 (27.8%)	52 (72.2%)		
Non formal employment	6 (37.5%)	10 (62.5%)	0.663	0.718
No: of Antenatal Visits				
no visit	8 (38.1%)	13 (61.9%)		
1 - 3time	8 (19.0%)	34 (81.0%)		
4 - 6times	22 (24.4%)	68 (75.6%)		
> 6times	77 (30.8%)	173 (69.2%)	4.162	0.244
Place of delivery				
At home	7 (41.2%)	10 (58.8%)		
Public health facility	73 (30.8%)	164 (69.2%)		
Private health facility	23 (20.5%)	89 (79.5%)		
Mission home	9 (36.0%)	16 (64.0%)		
Church	3 (25.0%)	9 (75.0%)	6.200	0.185
Mode of delivery				
Vaginal delivery	99 (27.8%)	257 (72.2%)		
Assisted forceps delivery	8 (30.8%)	18 (69.2%)		
Caesarean section	8 (38.1%)	13 (61.9%)	1.097	0.578
Advice on breastfeeding				
No	12 (35.3%)	22 (64.7%)		
Yes	103 (27.9%)	266 (72.1%)	0.832	0.362

4.3 Regression Analysis

4.3.1 Multiple Logistic Regression of duration of breastfeeding on selected characteristics

Among 13 variables tested in bivariate analysis to reveal their association with duration of breastfeeding, only three showed significant association, they are parity, husband's education and husband's occupation (Table 4.2.1).

Table 4.3.1 shows that the odd 25 times less likely that a mother with only 1 child will breastfeed for a longer period of time, the association is statistically significant (P value = 0.024; CI = 0.002–0.656)

There is no significant association with husband's education and husband's occupation in regression analysis. ($p > 0.05$).

Table 4.3.1: Multiple Logistic Regression of duration of breastfeeding

Variables	Odd Ratio	95% CI Lower - Upper	P-value
Parity			
First	0.04	0.002 – 0.656	0.024
Second	0.56	0.151 – 2.084	0.387
Third	0.57	0.573 – 2.267	0.428
≥Fourth (Ref)	1.00		
Husband's Education	0.70	0.158 – 3.105	0.638
≤ Primary	0.44	0.135– 1.462	0.182
Secondary	1.00		
≥ Tertiary (Ref)			
Husband's Occupation	0.00	0.000	0.999
Self employed	0.00	0.000	0.999
Formal employment	1.00		
Non formal employment (Ref)			

4.3.2 Logistic Regression of exclusive breastfeeding practice on selected characteristics

Among logistic regression association between exclusive breastfeeding and the selected characteristics, age of mother, parity and woman's education shows statistically significant association.

Mothers within the age group 25 – 34 years are 2 times more likely to practice exclusive breastfeeding; the association is statistically significant (P value = 0.038; CI is 1.044 – 4.801). The odd is 3 times more likely that mothers within age group 15 – 24 years will exclusively breastfeed their index child, the association is however not statistically significant ($p > 0.05$)

There is significant association between exclusive breastfeeding and women with 1 child (P value < 0.001; CI is 0.001 – 0.066). The odd is 1.1 times less likely and 1.1 times more likely that mothers with 2 and 3 children respectively will breastfeed exclusively, however, this association is not statistically significant ($p > 0.05$).

After adjusting for age, parity and birth order, women are about 2 times less likely that a woman with secondary education will exclusively breastfeed her index child, this is a statistically significant result (P value = 0.023; CI is 0.240 – 0.899). The odd that women with primary education will exclusively breastfeed their child is 1.3 times less likely compared to a woman with tertiary education(P value = 0.606; CI is 0.293 – 2.049).

Birth Order which revealed significant association with exclusive breastfeeding practice in bivariate analysis has changed in regression analysis because they have no significant effect, while holding other variables constant.

From regression analysis, result shows that breastfeeding exclusively is affected by only demographic factors and socioeconomic factors, while health service factor has no effect on exclusive breastfeeding practices.

Table 4.3.2 Logistic Regression of variables influencing exclusive breastfeeding

Variable	Odd Ratio	95% CI Lower - Upper	P-value
Age of mother			
15-24	2.89	0.942 – 8.882	0.064
25-34	2.24	1.044 – 4.801	0.038
≥ 35 (Ref)	1.0		
Parity			
First	0.01	0.001 – 0.066	<0.001
Second	0.48	0.095 – 2.393	0.368
Third	0.76	0.206 – 2.812	0.681
≥Fourth (Ref)	1.0		
Birth Order			
First	1.05	0.141 – 7.728	0.965
Second	0.59	0.097 – 3.624	0.571
Third	0.88	0.196 – 3.998	0.873
≥Fourth (Ref)	1.0		
Women's Education			
≤primary	0.77	0.293 – 2.049	0.606
secondary	0.47	0.240 – 0.899	0.023
≥ tertiary (Ref)	1.0		

CHAPTER FIVE

Discussion

This study examined breastfeeding practice among married women of reproductive age who have children up to 3 years of age in Ibadan North Local Government Area, Adeoyo Hospital, Yemetu. It also investigates the influence of selected demographic, socioeconomic and health service factors on duration of breastfeeding. The analysis was based on data collected through the use of questionnaire.

Frequency distribution of sample women

Total sample women were 403. Approximately 95 per cent of sample women were Yoruba, 2 per cent were Hausas and 3 per cent were Igbos. Over 52 per cent of those are in the age group 25 – 34 years and majority of them have 1 child. More than half of sample women have are educated up to secondary level and same finding is also seen for their husbands.

Regarding socioeconomic status, over 67 percent of sample women had secondary education, over 78 percent were self-employed. Almost all women in the sample received antenatal care, and over 58 per cent delivered in a public health facility.

Attitude of Mothers towards Breastfeeding Practices

Majority of mothers attending Adeoyo Hospital had good attitude towards breastfeeding practices. Over 94 per cent of nursing mothers jointly agree that women should breastfeed immediately after delivery, 83 per cent of them agreed that women are not usually embarrassed anytime they breastfeed especially in public places. Over 70 per cent agreed that irrespective of a mother's household chores or school or work, a woman should breast their babies. This is contrary to the findings of Okolie U. (2012), he described breastfeeding in

public places, work place not conducive and stress as some psychologically problems some women encounter during breastfeeding, therefore this indicates that majority of mothers have good attitude towards practice of breastfeeding and are not affected by these psychological problems.

About 66 per cent of women jointly agree that their husbands and family members encourage them to breastfeed. 91.4 per cent of women jointly agree that health education is always reviewed during antenatal visits, this is similar to the findings of a study conducted by Ukegbu A.U, Ebenebe E.U, Ukegbu P.O, 2011.

Breastfeeding Practices among mothers

Regarding practice of breast feeding, 98.3 per cent had ever breastfed their index children. However, there's difference in their mode of delivery in the practice of breast feeding, since 98.6 percent who delivered vaginally practiced it and 90.5 per cent who delivered through caesarean section.

Initiation of breast feeding is quite satisfactory since nearly 73 per cent of sample women initiated immediately after delivery and 22 per cent initiated breast feeding with hours later after delivery on the same day, while about 6 percent initiated after 24 hours (Days later). This is in agreement with earlier studies (Aye K. K., 2000).

Also, the mean and median duration of breast feeding were found as 18.9 months and 18 months respectively. Moreover, introduction of complementary feeding is fair about 51 per cent of sample mothers introduced complements at 6 months, while about 42 percent introduced it before 6 months of delivery. This result is still poor compared to earlier studies conducted in Sokoto State where exclusive breastfeeding was highly practised in this community as 78.7% of the mothers gave only breast milk up to six months after delivery

(Oche M.O. and Umar A.S, 2008). Whereas, other studies show lower frequency than the study conducted. For instance, in a study on determinants of breast feeding pattern in Anambra state, only 37.3% of the children were breastfed exclusively (Ukegbu A.U, Ebenebe E.U, Ukegbu P.O, et al, 2011) and another similar study, only a small proportion (19%) of the nursing mothers practiced exclusive breastfeeding (Ojo M. A. and Opeyemi V. O., 2012).

Factors Affecting Breastfeeding Practices among mothers

Maternal Age: Contrary to other studies that found thatolder women are more likely to continue breast-feeding beyond 18 months than younger women in rural Java-Bali (Iskandar M.B., Costello, C., and Nasution, Y., 1990), this study shows no relationship between age of mother and duration of breastfeeding.

However, in association between age of mother and exclusive breastfeeding practice, bivariate analysis shows that there is statistically significant association between age of mother and exclusively breastfeeding an infant and also shows significant association between them in regression analysis. Therefore, age of mother is a significant predictor of exclusive breastfeeding practice.

Parity: This study showed that there is statistically significant association between parity and duration of breastfeeding; women with higher parity breastfeed their children for longer duration. This argument is supported by a study from India (Kishore, S, Garg, B.S, Mathur, J.S et al, 1995). This relationship is confirmed in regression analysis of this study. There is significant association between parity and duration of breastfeeding in regression analysis.

A similar result was found in bivariate analysis; there was significant association between parity and exclusively breastfeeding an infant. Also, in regression analysis, parity is a significant predictor of exclusive breastfeeding practice.

Birth Order: Some researchers found the positive relationship between birth order of the child and duration of breast-feeding (Swenson, I.E, Thang, N.M and Tieu, P.X., 1993, Khin Thet Wai and K Ba Thike, 1996), but this is contrary to the findings of this study, there was no significant association between birth order and duration of breastfeeding.

In the second outcome, bivariate analysis showed significant association between birth order and exclusive breastfeeding practice ($p<0.001$), but there was no significant association in regression analysis.

Sex of the Child: Studies in China, India and some South Asian countries proved sex of a child as one of the important factors affecting breastfeeding practices, but this study showed that sex of child is not a signification predictor of duration of breastfeeding.

The same result is found in relationship between sex of a child and exclusive breastfeeding practice.

Age at first birth: Contrary to other studies (Thau et al., 1996), this study showed no significant association between age at first birth and duration of breastfeeding.

The same result is found in relationship between age at first birth and exclusive breastfeeding practice.

Maternal Education: Earlier studies showed relationship between maternal education and duration of breastfeeding (Kalra, A., Kalra, K. and Dayal, R.S., 1982 and Mannan, H.R. and Islam, M.N, 1995). This finding is contrary to the result of this study.

However, there was significant association between maternal education and exclusive breastfeeding practices (p value = 0.015), and also in regression analysis association was found that women with secondary education are less likely to exclusively breastfeed compared to women with tertiary education.

Maternal occupation: Maternal occupation is not a significant predictor of duration of breastfeeding and exclusive breastfeeding practices (p>0.05). This is contrary to earlier studies conducted where maternal education has effect on duration of breastfeeding (Shah, I.H and Khanna, J., 1990, Stewart, J.F, Popkin, B.M., Guilkey, D.K., 1991, and Ahmed S., 1997)

Father's Education: Earlier studies showed that father's education had effect on duration of breastfeeding ((Iskandar, M.B., Costello,C., and Nasution,Y., 1990, Mannan, H.R. and Islam, M.N, 1995), this study showed significant association in bivariate analysis but no association was found in regression analysis.

In the second outcome, this study showed that father's education is not a signification predictor of whether a mother breastfeeds exclusively or not.

Father's Occupation: This study shows that there is association between father's occupation and duration of breastfeeding in bivariate analysis while in regression analysis no association was found.

The association of father's occupation with exclusive breastfeeding has been inconsistent (Chudasama RK, Patel PC & Kavishwar AB, 2009 and Lawoyin TO, Olawuyi JF & Onadeko MO, 2001). However, this study showed that father's occupation has no significant effect on exclusive breastfeeding practice among women in Ibadan North Local Government.

Antenatal care visit: a higher proportion of women (62%) attending Adeoyo hospital visited antenatal more than 6 times throughout their pregnancy period. However, number of antenatal visit is not a significant predictor of duration of breastfeeding and exclusive breastfeeding practices ($p>0.05$).

Place of Delivery: Studies in Indonesia, Philippines and Mexico showed that place of delivery is one of the factors affecting breastfeeding practices (Iskandar, M.B., Costello,C., and Nasution, Y, 1990, Aye Kyi Kyi, 2000, Stewart, J.F, Popkin, B.M., Guilkey, D.K et al, 1991), but this study showed that place of delivery is not a signification predictor of duration of breastfeeding.

The same result is found in relationship between place of delivery and exclusive breastfeeding practice.

Mode of Delivery: The result of this study showed no significant association between mode of delivery and duration of breastfeeding, there was also no significant association between mode of delivery and exclusive breastfeeding practice in Ibadan North Local Government. This result is contrary to results from earlier studies; a study done by Zanardo V, Svegliado G, Cavallin F, et al, (2010) to determine whether elective caesarean delivery have a negative effect on breastfeeding, they report that, emergency and elective caesarean deliveries are similarly associated with a decreased rate of exclusive breastfeeding compared with vaginal delivery. Another study by Maru Y and Haidaru J (2009) reports in their study that mothers who delivered by caesarean section were 80% times less likely to practise exclusive breastfeeding.

Advice on breastfeeding: 91.6% of sample women received advice on breastfeeding. However, advice on breastfeeding is not a signification predictor of duration of breastfeeding.This is supported by a study in Philippines; there is no statistically significant

effect of breast-feeding promotional messages on the intention and duration of breast-feeding (Stewart, J.F, Popkin, B.M., Guilkey, D.K., et al, 1991).

Advice on breasting also has no significant association with exclusive breastfeeding practices.

Awareness, Knowledge and Practice of exclusive breastfeeding

Among 65.8 per cent of sample women who had ever heard of exclusive breastfeeding and the knowledge they have about it varies from one mother to another. Result shows that 59.1 per cent of women have adequate knowledge of exclusive breastfeeding (EBF), whereas, about 6.6 per cent of women who agreed to have ever heard of exclusive breastfeeding did not do not have the comprehensive knowledge of what EBF means. This figure is different from other studies where 82.3% were able to define correctly exclusive breastfeeding (Ogbonna C. and Daboer J. C., 2007). This shows that the knowledge about exclusive breastfeeding in this local government is still poor.

Among these nursing mothers only 28.5 of them practiced it EBF, this is similar to other studies (Oche, M. O., Umar, A. S. and Ahmed, H, 2011)

Relationship between duration of breastfeeding and selected characteristics

Bivariate analysis on duration of breastfeeding revealed significant association between duration of breastfeeding and three (3) of the independent variables; the remaining 10 shows no significant association, result shows that parity, husband's education and husband's occupation has effect on duration of breastfeeding among women attending Adeoyo Hospital in Ibadan North Local Government, Yemetu. This significant association corresponds with other studies (Aye K. K., 2000, Adenusi, O. O., 1993, Kishore, S., Garg, B. S., Mathur, J. S., et al, 1995).

To know more comprehensive result for the effects, logistic regression analysis is carried out. There was association between duration of breastfeeding and parity, while, husband's education and husband's occupation shows no significant association in regression analysis. Therefore among all selected characteristics, there is significant association between duration of breastfeeding and demographic factors; whereas no significant association between socioeconomic factors and health service factors among women attending Adeoyo Hospital in Ibadan North Local Government, Yemetu. Therefore, parity is a significant predictor of exclusive breastfeeding.

Relationship between exclusive breastfeeding practices and selected characteristics

The second bivariate analysis carried out on exclusive breastfeeding practice and selected characteristics shows that four (4) of the independent variables were statistically significant; the remaining nine (9) shows no significant association. The data seems to point out that birth order, age of mother, parity and women's education is associated with an infant been exclusively breastfed or not. This result also tallies with many earlier studies conducted (Iskander M. B., Costello, C., and Nasution Y., 1990, Kaunang Y. M., 1999)

Logistic regression analysis on exclusive breastfeeding practice confirmed some associations observed in the bivariate analysis but some others had changed while controlling for other factors. In logistic regression analysis, 3 variables (age of mother, parity and women's education) have significant effect on exclusive breastfeeding practices.

Limitation of the study

This study is limited to only one hospital in the local government; this study area alone cannot fully represent the entire population of mothers in the local government. This can be one of the contributing factors why most results did not correspond with other studies.

5.1 Conclusion

Based on the result obtained, it is concluded that duration of breastfeeding is affected by parity; it is less likely that women with 1 child will breastfeed for longer period of time.

In addition, it can be concluded by exclusive breastfeeding practice is affected by demographic and socioeconomic factors; they include age of mother, parity and women's education. These factors affect breastfeeding practice among the women attending Adeoyo hospital in Ibadan North Local Government.

5.2 Recommendations

5.2.1. Recommendations for policy implication

In view of the above findings, the following recommendations are being put up to help achieve a desirable attitude and to adopt better practices of breast feeding in our community:

5.2.1.1 Mean duration of any type of breastfeeding in Ibadan North Local Government is 18.9 months. This is already close to the WHO recommendation but the benefit is not at this age but in the completion of breastfeeding at 3 years. Therefore, promotion of breastfeeding to 3 years as suggested by WHO is necessary for benefit of both mother and child.

5.2.1.2 Health education should be strengthened among mothers and should cut across all social strata irrespective of level of education and class and should include information especially like properties and component of breast milk which makes it superior to artificial feeding.

5.2.1.3 Among mothers with children up to 6 months of age; older women with low parity, and higher education are likely not to breastfeed their children exclusively. Therefore, it is necessary to encourage these "target women" to breastfeed for 6 months exclusively as suggested by WHO. It should be carried out by health personnel at different sections of local health facilities and also by health education through mass media.

5.2.1.4 Almost 42 per cent of mothers introduced supplementary feeds before 6 months of delivery. Therefore, it is important to encourage mothers to breastfeed exclusively up to 6 months, to meet WHO's recommendations.

5.2.1.5 Mothers should also be taught about when to add supplementary food to breastfeeding and also how to prepare these feeds. They should also be taught the types of food which have the most nutritious value.

5.2.2 Recommendations for future research

This study assessed factors that influence breastfeeding practices from mother's perspectives only due to limited time; therefore further research is needed to assess health workers perspectives to identify related factors in order to inform policy and foster promotion of exclusive breastfeeding.

REFERENCE

1. Abdul-Ameer, A.J., Al-Hadi, A.H. and Abdulla, M.M. 2008.Knowledge, attitudes and practices of Iraqi mothers and family child-caring women regarding breastfeeding.Eastern Mediterranean Health Journal, 14.5-1003.
2. Adair, L.S., Popkin, B.M. and Guilkey, D.R. 1993. "The Duration of Breastfeeding: How is it affected by Biological, Socio-demographic, Health Sector & Food Industry Factors". Demography, 30(1): 63-80.
3. Adenusi, Olapeju Ore-Ofe, 1993. Sociodemographic factors influencing breastfeeding duration and its effect on subsequent fertility in Nigeria. Bangkok: Mahidol University,. v, 52 p. (T E7120)
4. Aghaji M.N, 2002. Exclusive breast-feeding practice and associated factors in Enugu, Nigeria.West Afi J Med.21.1:66-9.
5. Ahmed, S., 1997."Practical Support for Breast-feeding Mothers". Postgraduate Doctor, 13:65-9
6. Akin, J.S, Bilsborrow, R.E., Guilkey, D.K. and Popkin, B.M. 1986. "Breast-feeding Patterns and Determinants in the Near East: An Analysis for Four Countries". Population Studies 40,247-262.
7. Akre, J. 1989. Infant feeding: The physiological basis. Bull World Health Organ; 67(Suppl):1-108
8. Angus, N., Marie – Louise N., Eric V.P. 1995. Infant feeding policy and practice in the presence of HIV – I infection; AIDS; 9; 107 – 119
9. Arora S., McJunkin, C., Wehrer, J. and Kuhn, P. 2000. Major factors influencing breastfeeding rates.Mothers perception of father's attitude and milk supply. Pediatrics; 106(5)67. http//pediatrics.aappublications.org/egi/content/full/106/5/e67 (accessed 18 November 2005)

10. Aye, K. 2000. "Factors affecting breastfeeding in the Philippines: An analysis of 1998 NDHS data". A thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts (Population and Productive Health Research), Faculty of graduate Studies, Mahidol University. M.A. (Pop & Repro H Res) 4238525 PRRH/M: 37-60

11. Beverley, C., JanuszKaczorowski, Elizabeth, D., Maureen, H., Deshayne, B.F., Beverley, O.B. and Lily L. 2010. "Maternity Experiences Study Group of the Canadian Perinatal Surveillance System". Birth: issues in perinatal care.44 (37): 1-6

12. Beverly, W. and Virginia, H. L. 1989. Breastfeeding and bottle feeding controversies in the Developing world; Social Science and Medicine; 29; 859-868. November 1989.

13. Briend, A., Wojtynaik, B. and Rowland, M.G. 1988. Breastfeeding, Nutritional State and Child Survival in Rural Bangladesh.British Medical Journal.Central Bureau of Statistics (CBS) [Indonesia] and State Ministry of Population./ National Family Planning Coordinating Board (NFPCB) and Ministry of Health (MOH) and Macro International Inc.(MI)1995. IndonesiaDemographic and Health Survey 1997.Calverton, Maryland: CBS and MI. 296: 879-82

14. Brown, B.J., Oladokun, R.E. and Osinusi, K., 2009. Situation analysis of the existing infant feeding pattern at the commencement of the prevention of mother to child transmission (PMTCT) of HIV programme in Ibadan.Niger J ClinPract, 12.4:421-8.

15. Campbell, H. and Jones, I. 1996. Promoting breastfeeding; a view of current position and a proposed agenda for action in Scotland; Journal of Public Health Medicine; 18(4); 406-414.

16. Chudasama, R.K., Patel, P.C. and Kavishwar, A.B. 2009: Determinants of exclusive breastfeeding in south gujarat region of India. J Clinic Medic Res, 1(2):102–108.

17. Clemens, J.D., Sack, D. A., Harris, J. R., Khan, M. R., Chakraborty, J., Chowdhury, S., Rao, M. R., van Loon, F. P., Stanton, B. F., and Yunus, M. 1990. Breastfeeding and the risk of severe cholera in rural Bangladeshi children. American Journal of Epidemiology, 131, 400-411.

18. Cushing, A.H., Samet, J.M. et al., 1998. Breastfeeding reduces risk of respiratory illness in infants; America – J-Epidemiology; 147 (9); 863 – 70. 422. May 1998

19. Davies-Adetugbo, A. A. 1997. Sociocultural factors and the promotion of exclusive breastfeeding in rural Yoruba communities of Osun State, Nigeria.. Article on Social Science Medicine 08/1997; 45(1):113-25

20. de Paoli, M., Manongi, R., Helsing, E. and Klepp, K. 2001: Exclusive Breastfeeding in the Eraof AIDS .Journal of Human Lactation, 17(313): 315,319

21. Der, G., Batty, G.D., Deary, I.J. 2006."Effect of breast feeding on intelligence in children: prospective study, sibling pairs analysis, and meta-analysis". BMJ333 (7575): 945.doi:10.1136/bmj.38978.699583.55.PMC1633819.PMID17020911. //www.ncbi.nlm.nih.gov/pmc/articles/PMC1633819/.

22. El-Kariri M. and Basil K. 2011. Infant Feeding in Gaza Strip: Mother Knowledge, Attitudes and Practices. Annals of Alquds Medicine 3: 58-65.

23. Eregie, C.O. 1997. "Observations on Certain Factors Associated with Exclusive Breastfeeding". International Child Health 8(4): 45-48.

24. Esmai, and Songa, J. 1994. Health education on breastfeeding in ANC in Eldoret district hospital, Kenya; European Journal of Scientific Research.71; 149-154. March1994

25. Evenhouse E, Reilly, S. 2005. "Improved estimates of the benefits of breastfeeding using sibling comparisons to reduce selection bias".Health Serv Res: 40 (6 Pt 1):

1781–802. doi:10.1111/j.1475-6773.2005.00453.x. PMC1361236.PMID16336548. //www.ncbi.nlm.nih.gov/pmc/articles/PMC1361236/.

26. Fatiregun, A.A and Abegunde, V. O, 2009. Infant feeding among women attending an immunization clinic at a tertiary health institution in Ibadan, Nigeria.Early Child Development and Care, 179:5.637-644(8).
27. Feldman, S. 2000. "Nursing Through Pregnancy".New Beginnings(La Leche League International) 17 (4): 116–118, 145.http://www.lalecheleague.org/NB/NBJulAug00p116.html.Retrieved 2007-03-15.
28. Ferreira et al (1996); Rapid epidemiologic assessment of Breastfeeding practices; Journal of Tropical Peadiatrics; 42; 50-53.
29. Fewtrell, M.S., Morgan, J.B., Duggan, C., Gunnlaugsson, G., Hibberd, P.L., Lucas, A., Kleinman, R.E. 2007. Optimal duration of exclusive breastfeeding: what is the evidence to support current recommendations? Am J ClinNutr., 85.2:635S-638S
30. Furman, L., Minich, N.M. and Hack, M. 1998. Breastfeeding of very low birth weight infants; J-Hum- Lact; 14(1); 29-34. March 1998
31. Gareth J, Richard WS, Robert EB, Zulfiqar AB, Saul SM. 2003. "How many child deaths can we prevent this year?" Lancet 362(9377):65-71.
32. Grant J.P., 1991. "The State of the World's Children". Oxford University press, oxford, Breast.feeding and health in the 1980's, *J. Paediatr.*:11 8: 8-10.
33. Horta, B.L., Bahl, R., Martines, J.C. and Victora, C.G. 2007. Evidence on the long-term effects of breastfeeding: systematic reviews and meta-analyses. Geneva, Switzerland: World Health Organization. ISBN978-92-4-159523-0.http://whqlibdoc.who.int/publications/2007/9789241595230_eng.pdf. Retrieved 2010-04-05.

34. Huffman, S.L., 1984. "Determinants of Breast-feeding in Developing Countries: Overview and Policy Implication". Studies in Family Planning, 15 (4): 170-183.

35. Ighogboja, I.S., Odumodu, C.U. and Olarewaju, R.S., 1996. Breastfeeding pattern in Jos,Nigeria, before baby friendly Hospital Initiative. J Trop Pediatr. 42:178- 179.

36. Iliff, P.J., Piwoz, E.G., Tavengwa, N.V., Zunguza, C.D., Marinda, E.T., Nathoo, K.J., Moulton, L.H., Ward, B.J., Humphrey, J.H. 2005. Early exclusive breastfeeding reduces the risk ofpostnatal HIV-1 transmission and increases HIV-free survival. AIDS. International Breastfeeding Journal, 19(7): 704

37. Ineichen, B., Pierce, M., and Lawrenson, R. 1997. "Teenage mothers as breastfeeders: attitudes and behavior." Journal of Adolescence 20(5): 505-509.

38. Ip, S., Chung, M., Raman, G., et al. 2007. "Breastfeeding and maternal and infant health outcomes in developed countries". Evid Rep Technol Assess (Full Rep) (153): 1–186.
PMID17764214.http://www.ahrq.gov/downloads/pub/evidence/pdf/brfout/brfout.pdf. Retrieved 2009-09-22.

39. Iskander, M.B., Costello, C., and Nasution, Y., 1990. "Initiation and Duration of Breast-feeding in Indonesia", Asia-Pacific Population Journal, 5 (1): 89-112.

40. Jeliiffe, D. B. 1985. Nutrition in Early childhood. London: Journal of Pediatric disease in childhood. 64: 1756-1757

41. Kalra, A., Kalra, K. and Dayal, R.S., 1982."Breast-feeding Practices in Different Residential, Economic and Educational Groups". Indian Practitioner, 19 (5): 419-426.

42. Karacam, Z., 2008. Factors affecting exclusive breastfeeding of healthy babies aged zero to four months: a community-based study of Turkish women. J ClinNurs. 17.3:341-9.

43. Khan, M.E., 1990. "Breast-feeding and Weaning Practises in india".Asia-Pacific Population Journal, 5(1): 71-88

44. Khin, T.W. and Ba, T.K., 1996. "Report on Correlates of Breast-feeding practices in a selected peri-urban area of Myanmar". A Report for the Project Funded by the Strategic Component on Social Science Research on Reproductive Health. Department of Medical Research. Ministry of Health. Myanmar.93027 BSDA 1: 23-57

45. Kishore, S., Garg, B.S., Mathur, J.S. and Nayar, S., 1995. "Determinants of Breastfeeding Practices in Rural Community of Wardha".Indian Journal of Maternal and Child Health 6(1): 11-3

46. Kramer M.S., and Kakuma R., 2012.Optimal duration of exclusive breastfeeding. Cochrane Database Syst Rev. 15;8:CD003517.

47. Kramer, M.S., Aboud, F., Mironova, E., et al. 2008."Breastfeeding and child cognitive development: new evidence from a large randomized trial". Arch Gen Psychiatry65 (5): 578–84. doi:10.1001/archpsyc.65.5.578. PMID18458209.http://archpsyc.ama-assn.org/cgi/content/full/65/5/578.

48. Kroeger, M., Smith, L., 2004. Impact of Birthing Practices on Breastfeeding: Protecting the Mother and Baby Continuum. Sudbury, Massachusetts: Jones & Bartlett Publishers, 2004; 97-115, 131-32, 157-60, 201-2.

49. Laar, A.S. and Govender, V. 2011: Factors influencing the choices of infant feeding of HIVpositive mothers in Southern Ghana: The role of counselors, mothers, families andsocio-economic status. Journal of AIDS and HIV Research 2011, 3(7): 130-132

50. Labbok, M., Cooney, K., Coly, S., 1994. Guidelines: Breastfeeding, Family Planning and LactationalAmenorrhoea Method-LAM. Washington, DC: Institute for Reproductive Health. Studies in Family Planning;21(4):226-230.

51. Lawoyin, T.O., Olawuyi, J.F., Onadeko, M.O. 2002. Factors associated with exclusive breastfeeding in Ibadan, Nigeria. *J Hum Lact*, 17(4):321-325.

52. Leshabari, S.C., Blystad, A., de-Paoli M., Moland, M.M. 2007. HIV and infant feedingcounseling: challenges faced by nurse-counselors in northern Tanzania. HumanResources for Health.,5(18): 5-9

53. LiqianQiu, Yun Z., Colin, W.B, Andy H.L and Xing X. 2009. "Initiation of breastfeeding and prevalence of exclusive breastfeeding at hospital discharge in urban, suburban and rural areas of Zhejiang China". Int. Breastfeed Jour., 3(1):4.

54. Lovera, D., Sanderson, M., Bogle, M.L., Vela, A. M. 2010: Evaluation of a breastfeeding peer support program for fathers of hispanic participants in a texas special supplemental nutrition program for women, infants, and children. *J Am Diet Assoc* 2010, 110(11):1696-1702.

55. Lucas, A., Morley, R., Cole, T. J, Lister, G. and Leeson-payne C., 1992."Breast milk and Subsequent Intelligence in Children Born Pre-term".Lancet 339: 261-4.

56. Mannan, H.R. and Islam, M.N, 1995. "Breast Feeding in Bangladesh: Patterns and Impact on Fertility". Asia-Pacific Population Journal, 10(4): 23-37.

57. Maria, et al., 1993. Bulletin of PAHO; 1993; 27; 350-359.

58. Motil, K.J., B. Kertz, and M. Thotathuchery. 1997. "Lactational performance of adolescent mothers shows preliminary differences from that of adult women." Journal of Adolescent Health 20(6): 442-449.

59. Mukherjee, S., Singh, K.K. and Bhattacharya B.N. 1991. "Breast-feeding in Eastern Uttar Pradesh, India: Differentials and Determinants".JANASAMKHYA; 9 (1-2): 25-41.

60. Nickerson, L.E., Sykes, A.C. and Fung, T.T. 2012: Mothers' experience of fathers' support for breast-feeding. *Public Health Nutr*, 15(09):1780-1787.

61. Nigerian Demographic and Health Survey (NDHS), 2003. Calverton, MD: National Population Commission, ORC Macro; 151-154.

62. Nigerian Demographic and Health Survey.National Population Commission, 2008. Federal Republic of Nigeria; 2008. ICF Macro; 414-416

63. Oche, M.O., Umar, A.S. and Ahmed, H., 2011. Knowledge and practice of exclusive breastfeeding in Kware, Nigeria.Afr Health Sciences. 11.3: 518-523. PMCID:PMC3261014.

64. Oche, M.O., Umar, A.S., 2008. Breastfeeding practices of mothers in rural community of Sokoto, Nigeria. Niger Postgrad Med J. 15.2:101-4.

65. Ogbonna, C., Daboer, J.C. 2007. Current knowledge and practice of exclusive breastfeeding among mothers in Jos, Nigeria.Niger J Med. 16.3:256-60.

66. Ogunlesi, T.A., 2010. Maternal socio-demographic factors influencing the initiation and exclusivity of breastfeeding in a Nigerian semi-urban setting.Matern Child Health J.;14(3):459–465. doi: 10.1007/s10995-008-0440-3.

67. Ojo, M .A. and Opeyemi, V.O. 2012. Constraints to exclusive breastfeeding practice among breastfeeding mothers in Southwest Nigeria: implications for scaling up. *International Breastfeeding Journal* 2012, 7:5

68. Ojofeitimi, E.O., Esimai O.A., Owolabi O.O., Oluwabusi, Olaobaju O.F., Olanuga T.O., 2000. Breast feeding practices in urban and rural health centres: impact of baby friendly hospital initiative in Ile-Ife, Nigeria. Nutr Health 14.2:119-25.

69. Okolie U., 2012. Problems encountered by breastfeeding mothers in their practice of exclusive breast feeding in tertiary hospitals in Enugu State, South-East Nigeria. International Journal of Nutrition and Metabolism, 4.8:107-113.

70. Okolo, S.N., Adewunmi, Y.B., Okonji, M.C., 1999. Current breastfeeding knowledge, attitude and practice of mother in five rural communities in the Savannah region of Nigeria.J Trop Pediatr, 45.6: 323-6. PMCID: PMC3359265

71. Omotola, B.D., Grange, A.O., Adedoyin, J.A., Brai, B.I., Omotola, E.B., Njepuome, N. 2005. Breastfeeding practice in the first six months of life in Epe Local Government Area of Lagos State.Nig J NutrSci:26(2):16-22.

72. Picciano, M. 2001. "Nutrient composition of human milk".PediatrClin North Am48 (1): 53–67.

73. Potter, J.E., Majarro, O. and Nunez, L., 1987. "The Influence of Maternal Health Care on Prevalence and Duration of Breastfeeding in Rural Mexico".Studies in Family Planning. 18(6): 309-319.

74. Richard, M., Wadsworth, M., Rahimi – Foroushani A., Hardy, R., Kuh, D., Paul A. 1998; Infant nutrition and cognitive development in the first offspring of a national U.K. birth control; Dev-Med-Child-Neurol; 40(3);163-7.

75. Rudriguez, G., Scchaefer, R., Nuevos, L. 1991; Conceptosdelactancia, Su promocionylaeducacionde los profesionalesdelasalud; Bol of SanitPanam; 1991; 111; 1-15.

76. Shah, I.H and Khanna, J., 1990."Breast-feeding, Infant Health and Child Survival in the Asia-pacific Context".Asia- Pacific population Journal 5(1): 25-44.

77. Singh, B., 2010, Knowledge, Attitude and Practice of Breast Feeding – A Case Study.European Journal of Scientific Research 40 (3): 404-422.

78. Stewart, J.F., Popkin, B.M., Guilkey, D.K., Akin, J.S., Adair, L. and Flieger, W., 1991. "Influences on the Extent of Breast-feeding: A Prospective Study in the Philippines".Demography. 28(2):188-199.

79. Suharyono, P.M. 1997; Breastfeeding practices in Indonesia; Chung-Hua-Min-Kuo-Hsiao-Erh- Ko-I-Hsuah-Hui-Tsa-Chih; 38(5); 338-344.

80. Swenson, I.E., Thang, N.M. and Tieu, P.X., 1993."Individual and Community Characteristics Influencing Breast-feeding Duration in Vietnam.Annals of Human Biology. 20 (4): 325-34.

81. Thau, H., Gruber E., Anderson, M. and Archie, C. 1996. "Breast-feeding in adolescent mothers: The National Maternal and Infant Health Survey." Journal of Adolescent Health 18(2): 128.

82. Tin, O., 1995." Factors Influencing Breastfeeding and Weaning Practices Among Mothers of Children Under 3 Years of Age in Ratchaburi Province of Thailand". A Thesis Submitted for Master of Primary Health Care Management, Faculty of Graduate Studies, Mahidol University.

83. Tohotoa, J., Maycock, B., Hauck, Y., Howat, P., Burns, S., Binns, C. 2009: Dads make a difference: an exploratory study of paternal support for breastfeeding in Perth, western Australia. *Int Breastfeed J*, 4(1):15.

84. Tu, P., 1990. Breast-feeding Patterns and Correlates in Shaanxi, China" Asia-Pacific Population Journal, 5(1): 57-70.

85. Tuladhar, J.M., 1990. Breast-feeding Patterns and Correlates in Nepal". Asia-Pacific Population Journal, 5(1): 57-70.

86. Uchendu, U.●., Ikefuna, A.N. and Emodi, I.J., 2009. Factors associated with exclusive breastfeeding among mothers seen at the University of Nigeria Teaching Hospital. South African Journal of Child Health, 3: 1

87. Ukegbu, A.U., Ebenebe, E.U., Ukegbu, P.O., Onyeonoro, U.U., 2011. Determinants of breastfeeding pattern among nursing mothers in Anambra State, Nigeria. East Afr J Public Health, 8.3:226-31.

88. UNICEF, 2005. Breastfeeding and complementary feeding.http://www.childinfo.org/eddb/brfeed/index.htm (accessed 15 November 2005).

89. UNICEF, 1992. Take the baby friendly initiative. World Wide Website: http://www.waba.org.br/folder74.htm

90. UNICEF, 1994. World Breastfeeding Week-1994. Protect Breast-feeding: Making the Code Work. World Wide Website: http://www.waba.org.br/folder94.htm.

91. Williamson, N.E., 1990. "Breast-feeding Trends and the Breast-feeding Promotion Programme in the Philippines".Asia-Pacific Population Journal. 5(1): 113-124.

92. Witwer, M., 1993. "Mean Duration of Breast-feeding has Risen in Some Developing Countries, Fallen in Others since 1970s". International Family PlanningPerspectives.19(1): 34-35.

93. Womenshealth.gov., 2009. "Mothers and Children Benefit from Breastfeeding". 27 February 2009. Archived from the original on 16 Mar 2009.http://web.archive.org/web/20090316071541/http://www.4woman.gov/breastfeeding/index.cfm?page=227

94. World Health Organization, 1995. An evaluation of infant growth: the use and interpretation of anthropometry in infants. WHO Bulletin;73(4):165-174.

95. World Health Organization, 1998. Evidence for the ten steps to successful breastfeeding. Geneva: WHOBulletin; 1998.

96. World Health Organization, 2003. Global strategy for infant and young child feeding. Geneva, Switzerland: World Health Organization and UNICEF. ISBN92-4-156221-8.http://whqlibdoc.who.int/publications/2003/9241562218.pdf. Retrieved 2009-09-20.

97. World Health Organization, 2003. HIV and infant feeding data analysis workshop report. November 2003. Geneva. http://www.who.int/child-adolescent health/New Publications/NUTRITION/WHO_FCH_CAH_04.9.pdf .site visited on 14/5/2012

98. World Health Organization. 2009: Infant and young child feeding: Model Chapter for textbooks for medical students and allied health professionals. Geneva, WHO: 2009: http://www.who.int/nutrition/publications/infantfeeding/9789241597494/en/index.h.

99. Wright, A.L., Bauer, M., Naylor, A.A., Sutcliffe, E., Clark, L. 1998; Increasing breastfeeding rates to reduce infant illness at the community level; Jour. Of Paediatrics; 1998 May; 101(5); 837-44.

100. Zanardo, V., Svegliado, G., Cavallin, F., Giustardi, A., Litta, P., Trevisanuto, D. 2010. Birth: Elective cesarean delivery: does it have a negative effect on breastfeeding? Journal of Public Health Medicine, 37(4): 276-279.

APPENDIX 1

A SURVEY OF FACTORS AFFECTING INFANT BREASTFEEDING PRACTICES AMONG WOMEN OF REPRODUCTIVE AGE AT ADEOYO MATERNITY HOSPITAL, YEMETU, IBADAN NORTH LOCAL GOVERNMENT

INFORMED CONSENT FORM

My name is IGENE, Oseme Margaret; an M.Sc Epidemiology, student of Faculty of Public Health, University of Ibadan, Oyo State, Nigeria.. I am conducting a study on the survey of factors affecting infant breastfeeding practices among women of reproductive age at Adeoyo Maternity Hospital, Yemetu, Ibadan North Local Government, Ibadan. An interviewer will administer questionnaires to the participants and will be present to assist the participants during the interview. There are no physical risks associated with participation in this study.

Your participation in this research is absolutely voluntary and will cost you nothing other than a little of your time. The findings from this study will help healthcare providers in addressing the practice of infant breastfeeding among mothers.

All information collected shall be treated .with utmost care and secrecy as your name will not be collected. Only the researcher or investigator will know the questionnaires.

Statement of person obtaining informed consent:

I have fully explained this research to the participant and have given sufficient information, including information about risk and benefits, to make an informed decision.

DATE: _____/_____/_____

SIGNATURE: _____

NAME: _____

Statement of the person giving the consent:

I have read the description of the research and have fully understood it. I have talked it over with the researcher to my satisfaction. I understand that my participation is voluntary. I know enough about the purpose, methods, risks and benefits of the research study to judge that I want to take part in it. I understand that I may freely stop being part of this study at any time. I have received a copy of this consent form and additional information sheet to keep for myself.

DATE: _____/_____/_____

SIGNATURE: _____

Detailed contact information including contact address, Email and any other contact information of researcher, OYREC and head of the department.

This research has been approved by the university of Ibadan and Oyo State Research Ethical Review Board, Secretariat, Ibadan and the Chairman of the committee can be contacted at Ministry of Health, Oyo State Secretariat, Ibadan. You can also visit department of Epidemiology and Medical Statistics, College of medicine, UCH. Tel: 07029271592, Email: *emseh@comui.edu.ng*

In addition, if you have any question about your participation. in this research. You can contact the principal investigator, Department of Epidemiology, University College Hospital, Ibadan, Nigeria. Tel: 08166744790, Email: *justmeggylo@gmail.com*

APPENDIX 2

IWADI LORI OHUN TO N DENA MIMAA FUN OMO LOMU LARIN AWON OBINRIN TI WON N TO OMO LOWO NILE IWOSAN AGBEBI ADEOYO YEMETU, NI IJOBA IBILE ARIWA IBADAN. (IBNLG).

FUNIFOWOSIFỌỌMÙ

Orukọ mijẹIGENE, OsemeMargaret; ohunM.Sclmon Arun, akekotiOlukotiẹya-llera, UniversityofIbadan, Oyolpinle, Nigeria..Monifọnọhankaniwadiloriiwaditiawon okunfanyoikókóloyaniselaarin awonobirintiojo oriibisiniAdeoyoAlaboyunIwosan, Yemetu, IbadanNorthAgbegbeijoba, Ibadan. Ohunintervieweryooifuni niibeeresiawọnolukopaati awọnyoo jẹbayilatiranawọnolukopanigbaawọnibere ijomitoro. Ko sini nkanti araewupẹluikopaninu iwadi yi.

Rẹ ikopa ninu iwadi yi jẹ Egba atinuwa ati ki yoo na o ni ohunkohun miiran ju kekere kan ti akoko rẹ. Awari lati inu iwadi yi yio ran awọn olupese ilera ni ti n ba sọrọ ni asa ti ìkókó loyan laarin awon iya.

Gbogbo alaye ti o ti gbà yio le ṣe mu. Pẹlu abojuto ati utmost secrecy bi orukọ rẹ yoo ko le ṣe gba. Nikan ni awadi tabi oluṣewadii yoo mọ awọn ibeere.

Gbółóhùn ti awọn eniyan ti gba alaye ifowosi:

Mo ti ni kikun si se alaye ijinle yi lọ si ki o si alabaṣepọ ti o ti fi fun alaye to, pẹlu alaye nipa awọn ewu ati awọn anfani, lati ṣe ohun fun nipa ipinnu.

Ọjọ: _____ / _____ / _____

Ibuwọlu: _____

Orukọ: _____

Gbólóhùnti awọneniyan tio funniifowosi:

Mo tikaapejuwe siiti awọniwadi atitini kikungbọyeo. Mo titi soroloriopẹluawọnawadisimiitelorun. Momo wipeikopamijẹatinuwa. Mo mọtonipaawọnidi, ọna, ewu ati awọn anfanitiiwadi ijinle latilẹjọpeMofẹlati yaapakanninurẹ.Momo wipeemi ki o ledalarọwọtoni ogbon toapakantiiwadi yinieyikeyiakoko. Moti gbakandaakọyiifowosiati afikunalayedìlati tọjufunara mi.

Ọjọ: ___ / ___ / _____

Ibuwọlu: _____

Alayeolubasọrọalaye pẹluolubasọrọadirẹsi, Imeeliatieyikeyimiiranalaye olubasọrọtiawadi, OYRECatioriEka.

Ijinle yini a tia fọwọsinipasẹawọnUniversityofIbadanatiOyolpinIelwadiasaAtunwoBoard, Secretariat, IbadanatiawọnAlaga funigbimole ti wa niti farakanraniise Ijoba funIlera, OyolpinleSecretariat, Ibadan. O tun lelọ siEkatilmon ArunatiEgbogiÀlàyé, Collegetioogun, UCH. Tẹlifoonu:07029271592, Imeeli: *emseh@comui.edu.ng*

Ni afikun, ti o ba nieyikeyiibeerenipa kikopa. ninuiwadiyi. O lekan siawọnipòoluṣewadii, Sakaani tilmon Arun, University Collegelwosan, Ibadan, Nigeria. Tẹlifoonu:08166744790, Imeeli: *justmeggylo@gmail.com*

APPENDIX 3

SECTION A

SOCIAL DEMOGRAPHIC CHARACTERISTICS

MOTHER'S VITAL INFORMATION

1. Age as at your last birthday? (In years) _____
2. Education (1) None (2) Primary (3)Secondary (4)Tertiary (5)Post Tertiary
3. Occupation _____
4. Marital status? (1)Single (2) Married (3)Divorced (4)Widow (5)Others specify
5. Ethnicity?
   (1)Yoruba (2)Hausa (3)Igbo (4) Others Specify
6. Religion? (1) Christianity (2)Islam (3)Traditional (4)Others Specify
7. Father's Education (1)None (2)Primary (3)Secondary (4)Tertiary (5)Post Tertiary
8. Father's Occupation _____
9. How old were you when you gave birth to your first child?

   _____

SECTION B

PREGNANCY AND DELIVERY HISTORY

10	Where did you deliver your last child?	(A) PUBLIC HEALTH FACILITY (B) PRIVATE HEALTH FACILITY (C) HOME (D) OTHER SPECIFY _____
11	What was the nature of your last child's delivery?	(A)VAGINAL DELIVERY (B) ASSISTED DELIVERY WITH FOCEPT (C) CAESAREAN SECTION (i.e. C.S) (D) OTHERS, SPECIFY _____
11b	If caesarean, did you know you were going to use this option before labor?	(A) YES (B) NO
12	Did you go for antenatal care when you were pregnant?	(A) YES (B) NO
12b	If yes, how often did you go	(A) 1 – 3 TIMES (B) 4 – 6 TIMES (C) MORE THAN 6 TIMES
13	Did you receive advice on breastfeeding during antenatal?	(A) YES (B) NO
13b	If yes, from whom?	(A) HEALTH PROFESSIONAL (B) TRADITIONAL BIRTH ATTENDANT (C) OTHERS, SPECIFY _____

SECTION C

CHILD'S VITAL INFORMATION

14	How many children do you have?								
15	Age of your children	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
16	What are the sexes of your children?	M F	M F	M F		M F	M F	M F	M F	M F
17	Which of these vaccines did your last child receive?	OPV ☐ BCG ☐ Measles ☐ Yellow fever ☐ Hepatitis B ☐ Tetanus ☐ Pertussis ☐ Diphtheria ☐ Meningitis ☐								

SECTION D

MOTHER'S KNOWLEDGE ON BREASTFEEDING

18	Is breastfeeding initiated immediately after delivery?	(A) YES (B) NO (C) DON'T KNOW
19	How should a baby be fed?	(A) BREASTFEEDING (B) A MIX OF BOTH BREAST AND FORMULA FEEDING (C) FORMULA FEEDING
20	Before giving birth, how long did you intend to breastfeed your last child?	
21	Have you ever heard of exclusive breastfeeding?	(A) YES (B) NO
21b	If yes, what do you understand by exclusive breastfeeding?	
22	What are the constituents of breast milk	(A) FATS (B) SUGAR (C) WATER (D) PROTEIN
23	Did you give .your baby the yellowish substance that first came out from your breast after delivery? (also known as colostrum)	(A) YES (B) NO (C) I DON"T KNOW
24	What do you think of this yellowish substance called colostrum?	(A) IT SERVES AS FIRST IMMUNIZATION FOR THE BABY (B) I THINK IT IS DIRTY (C) IT IS BAD FOR THE BABY

25	Human breast milk is the healthiest form of milk for human babies than infant formula.	(A) YES (B) NO (C) DON'T KNOW
26	Have you ever heard of complementary breastfeeding?	(A) YES (B) NO
26b	If yes, what does complementary feeding mean to you?	
27	How old do you think your baby should be before you completely stop breastfeeding?	
28	What are the consequences of breastfeeding?	(A) WEIGHT LOSS (B) BONDING (C) REDUCED POST PARTUM BLEEDING
29	What are your sources of information on breastfeeding practices?	(A) MEDIA (B) HOSPITAL (C) FRIENDS (D) PARENTS (E) OTHERS, SPECIFY_____

SECTION E

BREASTFEEDING PRACTICES OF MOTHERS

30	Did you breastfeed your last child?	(A) YES (B) NO
31.	How long after birth did you first put your last child to the breast?	(A) IMMEDIATELY (B) HOURS LATER (C) DAYS LATER
32	During the first three days after delivery, did you give your last child the yellowish liquid that came out of your breast?	(A) YES (B) NO (C) DON'T KNOW
33	How frequently do you breastfeed your last child?	(A) ON DEMAND (B) 1-3 TIMES (C) 4-6 TIMES (D) MORE THAN 6 TIMES (E) DON'T KNOW
34	What age did you introduce supplementary feeding?	
35	What kind of foods did you introduce?	(A) MULTI MIXED FOOD (B) PAP (C) PAP AND MILK (D) FORMULA (E) SUGAR WATER (F) OTHERS, SPECIFY _____ _____

36	Why did you introduce it	(A) LACK OF BREAST MILK (B) MOTHER'S ILL HEALTH (C) BABY'S ILL HEALTH (D) OTHERS, _____ _____
37	What effect did you notice?	(A) STOOLING (B) WEIGHT GAIN (C) WEIGHT LOSS (D) OTHERS, _____ _____
38	Did you serve food supplement to your children with the use of bottle feeder?	(A) YES (B) NO (C) DON'T KNOW
39	For how long did you breastfeed your children?	1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | | | | | | | | |
40	When did you completely stop breastfeeding your last child?	
41	What weaning feeds are you giving now? List them.	
42	Are you giving artificial or formula milk?	
42b	If yes, what do you consider to be your opinion on the cost of the feed?	(A) IT IS TOO EXPENSIVE (B) IT IS VERY AFFORDABLE (C) OTHERS, _____

36	Why did you introduce it	(A) LACK OF BREAST MILK (B) MOTHER'S ILL HEALTH (C) BABY'S ILL HEALTH (D) OTHERS, _____
37	What effect did you notice?	(A) STOOLING (B) WEIGHT GAIN (C) WEIGHT LOSS (D) OTHERS, _____
38	Did you serve food supplement to your children with the use of bottle feeder?	(A) YES (B) NO (C) DON'T KNOW
39	For how long did you breastfeed your children?	1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th
40	When did you completely stop breastfeeding your last child?	
41	What weaning feeds are you giving now? List them.	
42	Are you giving artificial or formula milk?	
42b	If yes, what do you consider to be your opinion on the cost of the feed?	(A) IT IS TOO EXPENSIVE (B) IT IS VERY AFFORDABLE (C) OTHERS, _____

36	Why did you introduce it	(A) LACK OF BREAST MILK (B) MOTHER'S ILL HEALTH (C) BABY'S ILL HEALTH (D) OTHERS, _____
37	What effect did you notice?	(A) STOOLING (B) WEIGHT GAIN (C) WEIGHT LOSS (D) OTHERS, _____
38	Did you serve food supplement to your children with the use of bottle feeder?	(A) YES (B) NO (C) DON'T KNOW
39	For how long did you breastfeed your children?	1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th
40	When did you completely stop breastfeeding your last child?	
41	What weaning feeds are you giving now? List them.	
42	Are you giving artificial or formula milk?	
42b	If yes, what do you consider to be your opinion on the cost of the feed?	(A) IT IS TOO EXPENSIVE (B) IT IS VERY AFFORDABLE (C) OTHERS, _____

SECTION F

MOTHERS ATTITUDE TO BREASTFEEDING

Circle '**1**' if you **"strongly disagree"**, Circle '**2**' if you **"disagree"**

Circle '**3**' if you are **"Neutral"**, Circle '**4**' if you **"agree"**,Circle'**5**' if you **"strongly agree"**

		SD	D	N	A	SA
43	Women should breastfeed immediately after delivery	1	2	3	4	5
44	Women are not usually embarrassed anytime they breastfeed	1	2	3	4	5
45	Women do breastfeed even when they have to go to work or school	1	2	3	4	5
46	Women do breastfeed even when they have many household responsibilities	1	2	3	4	5
47	Breastfeeding is carried out to ensure that the child grows	1	2	3	4	5
48	Infant formula contains antibodies that protect against disease, especially against diarrhea, respiratory and ear infections	1	2	3	4	5
49	Mixed feeding (meaning breastfeeding and giving other foods and drinks) before six months can cause diarrhea, respiratory and ear infections	1	2	3	4	5
50	If a baby is breastfed he or she will be less likely to get diarrhea	1	2	3	4	5
51	Husbands usually encourage their wives to breastfeed	1	2	3	4	5
52	Family members encourage their wives to breastfeed	1	2	3	4	5
53	Breastfeeding does not allow the body to get back to shape quickly	1	2	3	4	5
54	During antenatal visit, health education is always reviewed	1	2	3	4	5
55	Ill health can affect breastfeeding practice	1	2	3	4	5

APPENDIX 4

IPIN A

SOSIA DEMOGRAFIK KARAKTARISTIK

OHUN TO SE KOKO, NIPA IYA.

1. Ojo ori ni ojo ibi ti o koja (ni odun) _____
2. Bi o se kawe to? (1). kokarara (2). Alakobere (3)Onipelekeji (4) Iwe giga (5) Akeko gboye _____
3. Ise wo ni o n se? _____
4. Nje O loko? (1). nko loko (2). mo loko (3) mo ti koko (4) oko mi tiku (5) onamiran so _____
5. Iru eya wo ni? (1). Yoruba (2).Hausa (3). Igbo (4) Iru eya miran so _____
6. Iru esin wo ? (1). Igbagbo (2). Musulumi (3). Esin ibile (4). iru esin miran so _____
7. Bi oko se kawe to? (1). koka we rara (2) Alako beere (3). Onipele keji (4). Iwe giga. (5). Akeko gboye _____
8. Iru ise oko _____
9. Kini ojo ori ni igba ti O bi Akobi omo re _____

APPENDIX 4

IPIN A

SOSIA DEMOGRAFIK KARAKTARISTIK

OHUN TO SE KOKO, NIPA IYA.

1. Ojo ori ni ojo ibi ti o koja (ni odun) _____
2. Bi o se kawe to? (1). kokarara (2). Alakobere (3)Onipelekeji (4) Iwe giga (5) Akeko gboye _____
3. Ise wo ni o n se? _____
4. Nje O loko? (1). nko loko (2). mo loko (3) mo ti koko (4) oko mi tiku (5) onamiran so _____
5. Iru eya wo ni? (1). Yoruba (2).Hausa (3). Igbo (4) Iru eya miran so _____
6. Iru esin wo ? (1). Igbagbo (2). Musulumi (3). Esin ibile (4). iru esin miran so _____
7. Bi oko se kawe to? (1). koka we rara (2) Alako beere (3). Onipele keji (4). Iwe giga, (5). Akeko gboye _____
8. Iru ise oko _____
9. Kini ojo ori ni igba ti O bi Akobi omo re _____

IPIN B.

ATI MOO SE BO OYUN ATI BIBI OMO

10.	Ibo ni O bi omo Abigbeyin re si	A. Ile iwosan gbogbogboo B. Ile iwosan aladani C. Ile D. Ibo miran so _____
11.	Iru ibimon wo ni O fi bi omo naa.	A. O biwon bi won se n bimon B. Won ran O lowo lati bii C. Ise abe D. Ona miran soo _____
11b.	Ti O ba je pe won gbe jade ni, nje O mon pe won O gbe jade ni ki O to ma robi	A. Beeni B. Beeko
12.	Nje O ma nlo fun itoju Alaboyun nigba ti O wa ninu oyun.	A. Beeni B. Beeko
12b.	Ti o ba je beeni, bii eemelo ni O lo	A. Ekan si emeta B. Merin si emefa C. O ju emefa loo
13	Nj e won gba O niyanju lati maa fun omo loyan ni igba ti O wa fun itoju Alaboyun	A. Beeni B. Beeko
13b.	Ti o ba je beeni, Tanni O fun O ni iyanju naa.	A. Akose mose eleto ilera B. Iya agbebi C. Eni yio wu o se _____

IPIN C

AWON OHUN TI O SE KOKO NIPA OMO

14.	Omo melo ni O bi									
15.	Kin ni ojo ori awon omo re.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
16	Nje okunrin tabi obinrin ni awon omo re.	M F	M F	M F	M F	M F	M F	M F	M F	M F
17.	Ewo ninu awon Aje sara yi ni omo abigbeyin re gba	OPV					☐			
		Iko fee					☐			
		Eyii					☐			
		Iba ponju ponto					☐			
		Epataitis B					☐			
		Eran ipa					☐			
		Patusis					☐			
		Difteria					☐			
		Yinrun yinrun					☐			

IPIN D.

BI IYA SE MO TO NIPA FIFUN OMO LOYAN.

18	Nje O bere si fun omo lomu lesekese ti O bimon tan?	A. Beeni B. Beeko C. Nko mon
19.	Bawo lo se gbodo fun omo lo onje?	A. Fifun omo loyan. B. Apapo oyan ati onje inu agolo C. Onje inu agolo nikan
20.	Ki O to bimon bawo lo se rope O ma fun omo re lomu to?	
21.	Nje O ti gbo nipa fifun omo loyan nikan daadaa?	A. Beeni B. Beeko
21b.	Bi o ba je Beeni. bawo ni o se ye o si	
22.	Kin ni O ro pe o wa ninu omi omu?	A. Ora ara B. Suga ara C. Omi ara D. Eroja asara lore Proteen
23.	Nje O fun omo re ni wara ti o koko jade ninu oyan re ti won pe ni (Kolostrum)?	A. Beeni B. Beeeko C. N ko mon
24.	Kin ni O ro nipa wara yi ti won pe ni "Kolostrum"?	A. Onje ajesara akoko B. Mo ro pe O doti C. Mo ro pe ko dara
25.	Wara eniyan nikan lo dara ju fun omo eniyan ju wara inu Agolo lo?	A. Beeni B. Beeko C. N ko mon
26.	Nje O ti gbo nipa afikun oyan?	A. Beeni B. Beeko
27.	Ti o ba je Beeni kin ni Afikun oyan	

	tumon si fun O?	
28.	Kin atehinbo fifun omo loyan?	A. Dindin iwon ara ku B. O fi ife si arin won C. O din eje ibimo ku D. Kii je ki'oyun tete wa E. Ohun miran so
29.	Nibo ni O tin n ri alaye lori fifun omo loyan	A. Awon agbohun safefe B. Ile – iwosan C. Awon ore D. Obi E. Ibi miran so

IPIN E

BI IYA SE N FUN OMO LOYAN.

30.	Nje O fun omo re abigbeyin loyan	A. Beeni B. Beeko
31	Bawo ni o se pe si ki O to fun omo re abigbehin loyan ni igba akoko	A. Lesekese B. Leyin wakati die C. Leyin ojo die
32.	Larin ojo meta si igba ti O bimon nje O fun omo re ni wara ti o ko jade ninu oyan re	A. Beeni B. Beeko C. N ko mon
33.	Bi atigba degba wo ni O se n fun omo re ni oyan si	A. Bi O ba se fe si B. 1-3 igba C. 4-6 igba D. O ju eemefa lo E. N ko mon
34.	Ni ojo ori wo ni O se afikun onje fun omo re	
35	Iru onje wo ni O fikun	A. Ounje Apopo B. Ogi C. Ogi ati wara D. Ouje inu Agolo E. Omi suga F. Onje miran so _____

36.	Ki lo de ti O fi se afikun naa	A. N ko ni wara loyan mon B. Ara iya koya C. Ara omo ko ya D. Ona miran so _____
37.	Iru apere wo ni o se	A. Omo yagbe gburu B. Omo n sanra C. Omo n ru D. Ona miran so ___
38.	Nje O tun fun omo re ni onje pelu ifimonlonje (fiida)	A. Beeni B. Beeko C. N ko mon
39.	Bawo lo se n fun awon omo loyan to	1st 2nd 3rd 4th 5th 6th 7th 8th 9th
40.	Igbawo pato ni O gboyan lenu omo re abigbeyin	
41.	Iru awon onje wo ni O fun, leyin ti o gboyan lenu re	
42.	N je O nfun ni atowoda wara tabi wara inu Agolo?	
42b.	Ti o ba je beeni kin ni ero okan re nipa iye ti O fi boo omo re	A. O ti won ju B. Ko won ju C. Ona miran so _____

IPIN F

IWUWA SI IYA LORI FIFUN OMO LOGAN

1. Nko fara mo rara 2. N ko fara mon 3. N ko mo 4. Mo fara mo

5. Mo fara mon daadaa

		SD	D	N	A	SA
43.	O ye ki iya fun omo loyan lesekese	1	2	3	4	5
44.	Kokii tabuko obinrin nigbakugba ti O ba n fomo loyan.	1	2	3	4	5
45.	Obinrin ma n fomo loyan biwon yio ba to ile-iwe tabi enu ise	1	2	3	4	5
46.	Obinrin maa n fowo loyan biwon yio ba fomo loyan bi otile je pe won ni opolopo ise ile lati se	1	2	3	4	5
47.	Won fun omo loyan ki O le dagba soke	1	2	3	4	5
48.	Onje inu agolo ni awon eroja ti o dena, igberuru, Aisan eemi, eti dundun	1	2	3	4	5
49.	Afikun onje tumon si adapo oyan ati awon onje ati mimu miran ki o to to osu mefa ti a bimon lee faa, igbegburu, eti didun aisan eemi	1	2	3	4	5
50.	Ti omo ba muyan ko wopo ko ni aisan igbegburu	1	2	3	4	5
51.	Oko ma n se koriya fun iyawo re ki O le fun omo loyan	1	2	3	4	5
52.	Awon ebi ma n se koriya fun obinrin ko le ba fun omo loyan	1	2	3	4	5
53.	Fifun omo loyan ki je ki ara tete pada sipo	1	2	3	4	5
54.	Ni igba itoju oyun eko nipa ilera nje gbangba lati odo awon eleto ilera	1	2	3	4	5
55.	Ailera le dena fifun omo loyan	1	2	3	4	5