DETERMINANTS OF MOTHERS' BREASTFEEDING PRACTICES IN KADUNA STATE

BY

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M.ED/EDUC/00198/2008-09
(P13EDVE8008)

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A THESIS SUBMITTED TO THE SCH

OOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS DEGREE IN HOME ECONOMICS

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

FACULTY OF EDUCATION

AHMADU BELLO UNIVERSITY, ZARIA

NIGERIA

March, 2015

DECLARATION

I, declare that this thesis titled " DETERMINANTS OF MOTHERS' BREASTFEEDING PRACTICES IN KADUNA STATE" has been written by me in the Department of Vocational and Technical Education, of the Home Economics section, Ahmadu Bello University, Zaria. Under the supervision of Prof. P.E Onuigbo and Prof. A. Z Muhammed. It has not been presented in any previous application for any higher degree all sources of information are duly acknowledged by means of references.

_____ _____

Gloria Ojor Izumah. ***Date.***

CERTIFICATION

This thesis titled "DETERMINANTS OF MOTHERS' BREASTFEEDING PRACTICES IN KADUNA STATE", meet the requirements and regulation governing the award of the Degree of Masters of Education (Family and Child Development) of Ahmadu Bello University and is approved for its contribution to knowledge and literally presentation.

Prof. P. E Onuigbo _____ _____
Chairman, Supervisor *Sign* *Date*

Prof. A. Z Mohammed _____ _____
Member, Supervisory committee *Sign* *Date*

Prof.A.A Udoh _____ _____
Head of Department *Sign* *Date*

Prof. A.Z. Hassan _____ _____
Dean, Postgraduate School *Sign*
Date

DEDICATION

This research work is dedicated to God Almighty, who gave me good health all the time and the opportunity to complete this programme successfully.

ACKNOWLEDGEMENTS

I acknowledge my Heavenly Father the highest God for sparing my life to witness the end of this work. May all praise, honour and glory be given unto His Holy name, Amen!

Special appreciation goes to my accommodating supervisors Prof. P. E Onuigbo and Prof A.Z Mohammed respectively ,who patiently read this work several times and gave constructive critics and suggestions to see me through this work in spite of their tight schedules. They both stood as pillars to the success of this work, and have been a source of inspiration to me. They deserve more gratitude than can be express here.

The Researcher also sincerely acknowledge the academic and moral support of Dr. S. L Ajayi, Dr. Okeh, Dr. Mrs. E. Adamu, Dr. D. O Oni, Prof. M.M Aliyu, Prof. Udoh, Dr Sani, for their guidance and valuable suggestions towards the success of the work.

I am indebted to my beloved husband Mr. Pius U. Izumah, a big thank you, for the your moral and financial support, words of advice, patient and prayers. To my darling children, Amanesi, Oshoke and Osilama, am most grateful for your prayers, patience and endurance any time am away, may God bless and keep you all.

The Researcher also registers her appreciation to Dr. Natala J. and Likita for their words of inspiration. I am very grateful to my employers and colleagues in Demonstration Secondary School for the opportunity availed to me, in the Department of Home Economics.

Sign

ABSTRACT

The study was on determinants of mothers' breastfeeding practices in Kaduna state. Four (4) objectives and four (4) research questions were formulated with three (3) null hypotheses. Survey research design was adopted for the study. The population for the study was drawn from 30 different hospitals in Zaria metropolis. A total population of all nursing mothers who attended ante-natal clinics was, three thousand, two hundred and five (3,205). Simple random sampling was used to draw a sample size of three hundred and twenty one (321) nursing mothers. Structured questionnaire was used in collecting data. Data collected were analyzed using frequencies, mean and percentages. Independent t-test of significant differences was used to analyzed hypotheses one (1), while chi-square of significant relationship was used to analyze hypothesis three (2) and three (3). Findings revealed that exclusive breastfeeding practices was the most frequently used method by nursing mothers in breastfeeding their children. It was also discovered that socio-economic status and levels of nursing mothers' education, was a positive determinants on the mother and child breastfeeding practices. It was concluded that, uneducated mothers find it difficult to adapt to positive changes in breastfeeding patterns and rarely breastfed their children hygienically. Among the recommendations made was the need for health inspectors to visit rural places where nursing mothers are not educated to ensure healthy hygiene practices of exclusive breastfeeding.

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LIST OF ABBREVIATIONS

AAP: American Academy of Pediatrics

ABUTH: Ahmadu Bello University Teaching Hospital

BFHI: Baby Friendly Hospital Initiative

EBF: Exclusive Breast Feeding

BFAN: International Baby Food Action Network

LGA: Local Government Area

UNICEF: United Nation Children International Education Fund

WHA: World Health Assembly

WHO: World Health Organisation

OPERATIONAL DEFINITION OF TERMS

Bonding: During breastfeeding, mother and child come together for a close relationship.

Exclusive Breastfeeding: Is the method of breastfeeding the child with breast milk only.

Mixed Feeding: Feeding of the child with other foods apart from breast milk.

Infant mortality: Is the rate at which young children die at birth or few months after birth.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The relationship between a mother and child is extremely important, especially with regard to breastfeeding habits. These affect the lives of children and mothers at an early stage and have become a source of concern for health workers and non-professionals alike (Agostoni, 2003). According to Bamsaye (1999) breastfeeding is the feeding of an infant or young child with milk from the mothers' breast. Babies have a sucking reflex that enables them to suck and swallow milk. With some exceptions human breast milk is the best source of nourishment for infants. Milk from mothers provides all the nutrients that a baby needs as well as that substance that promotes growth and help to fight infection.

The Federal Ministry of Health and International Organization, such as World Health Organization (WHO) promote breastfeeding as the best method of feeding infants especially during their first year. Breastfeeding benefits mother and child physically, emotionally and psychologically. Garters (2005), was of the opinion that early breastfeeding of the child helps to combat the invasion of certain diseases and promotes the physical wellbeing and sound brain development of the child. Mother's breast milk is the healthiest form of milk for the babies.

Azubuike and Nkanginieme (1999) opined that the most important advantage to breastfeeding is that, breast milk provides an infant with important protection against chronic diseases such as allergies and asthma, and infectious diseases including

meningitis, diarrhea, ear infections, and pneumonia. The immune components of breast milk constantly change to meet the infants need to be protected against new infections. As the infants' own immunity develops, the concentration of antibodies and anti-infection agents in the milk gradually declines. Breastfeeding facilitate bonding between a mother and infant that is emotionally satisfying to both of them. The mother develops nurturing behaviours and the infant in turn, learns fast.

Azubuike and Nkanginieme (1999) pointed out that the benefits of breastfeeding to the infant and mother include the provision of essential and adequate nutrients and calories to digestive, absorptive and excretory capacities to infants. Infant bonding and development of appropriate psychological abilities are also beneficial to the child. It also helps in involvement of the uterus and reduction post-partum morbidity, protection against cancer of the breast and ovaries and protection against early pregnancy and post-delivery. Both family and community also benefit from breastfeeding by reduction in cost of child care. It reduces medical cost on child spacing. Breastfeeding also provides an environment friendly option of infant feeding with no risk of air, water or land pollution.

Breastfeeding is carried out in different ways which include exclusive breastfeeding where the child is fed with breast milk only on demand for four to six months with no other food or drink given unless medically prescribed. Mixed feeding types of- breastfeeding is a process in which some other substances such as water, honey, herbs, together with breast milk and other complementary foods and drinks are given to the child (IBFAN, 2004). Another type of breastfeeding is where the nursing mother may use breast pump to remove milk from the breast in order to relief pressure in the breast when the mother and infant cannot be together for a normal feeding session. The breast

milk is bottled and kept in the warmer and used to feed the infants when needed. This is an option for mothers who work outside the home.

According to Behrman and Kliegman (2000) mothers' milk should be increasingly supplemented with solid food and other fluids after two years. As breastfeeding occurs less frequently, the body produces less prolactin, and less milk is produced to feed the infant. Abrupt weaning should be avoided because both mother and child need time to make biochemical and psychological adjustments (Behrman, Kliegman and Johnson, 2000). It is recommended by some pediatricians that infants should be breastfeeding for at least the first and second year of life for optional development. On the first six months of life, the healthy infant needs no food or fluid other than mothers' breast milk (Behrman, Kliegman and Johnson, 2000).

Breastfeeding is the only completely safe, protective and nutritious way to give a child the best start in life (Hassan, 1996). Unfortunately some children are not given this best start in life. This is because many factors influence breastfeeding behaviours and lead to lactation failure. These factors include inadequate knowledge about breastfeeding and infant nutrition, misconception and fears held by lactating women about breast milk and breastfeeding practices, lack of social support and hospital practices that discourage breastfeeding. The effect of maternal education on breastfeeding is also another factor. This is due to the fact that some mothers are not educated and may not know how to literally carry out breastfeeding practice.

The opinion of the nursing mothers in Kaduna state on the determinants of breastfeeding refers to their idea or belief about the effect of breastfeeding practice on the child. Most mothers believe that breastfeeding practice has a lot to do with their socio-

economic status. They are also of the idea that breastfeeding practice depends on the maternal level of education, hence the researcher intends to study the determinants of mothers' breastfeeding practices in Kaduna state.

1.2 Statement of the Problem

It has been estimated by the World Health Organization that over one million children die annually as a result of infant's illness and inadequate breastfeeding. Infant mortality rate in Nigeria is on the high increase and Kaduna State is not an exception. For example, out of 956 children at births in Ahmadu Bello University Teaching Hospitals in 2010, 482 deaths were recorded (ABUTH Health information management, 2011) as a result of inadequate attention to breastfeeding practices by nursing mothers.

The researcher observed that most of these babies that died were delivered in that same hospital and their mothers equally attended ante-natal care in the same hospital where baby friendly breastfeeding system was taught. When the researcher interacted with some of the health personnel's in the hospital on the causes of infant mortality in the hospital, it was discovered that despite the teaching of baby friendly, some mothers do not follow the practices. Majority of mothers practiced mixed feeding, which often causes infantile diseases resulting to high rate of infant mortality (Azubuike and Nkanginieme ,1999).

In line with the above, Azubuike and Nkanginieme (1999) opined that the most important advantage of breastfeeding is that, breast milk provides an infant with hygienic or health protection against chronic diseases such as allergies and asthma, and infectious diseases including meningitis, diarrhea, ear infections, and pneumonia. The immune

components of breast milk constantly changes to meet the infants need and to protect them against infections, the infant's own immune system develops, and the concentration of antibodies and anti-infection agents in the milk gradually declines.

Also, the researcher's interaction with some nursing mothers revealed that most nursing mothers supplement breast milk with water, herbs (tea and honey). Nursing mothers believe that breastfeeding practice has a lot to do with their socio-economic status. They were also of the opinion that breastfeeding practice depends on their level of education. That was why Bamsaye (1999), stated that some nursing mothers do not actually believe in the positive effects of breastfeeding. This informed the continued feeding of their babies with other supplement like water and readymade baby food. The concern of doctors, health officials and organization is ultimately on the decline in breastfeeding practice itself. It was based on these reasons that it became necessary to examine the determinants of mothers' breastfeeding practices on the mother and child in Kaduna State.

1.3 Objectives of the Study

The major objective for this study was to investigate the determinants of mothers' breastfeeding practices on the mother and child in Kaduna state.

The specific objectives are to:

1. identify types of breastfeeding methods practiced by nursing mothers with their babies in Kaduna State.

2. assess nursing mothers opinion on the determinants of exclusive breastfeeding and mixed feeding practices on the mother and child in Kaduna State
3. examine the determinants of socio-economic status of nursing mothers on exclusive breastfeeding and mixed feeding methods practiced in Kaduna State
4. examine the determinants of maternal level of education and their breastfeeding methods practices in Kaduna State.

1.4 Research Questions

The following research questions were formulated for the study:

1. What are the types of breastfeeding methods practiced by nursing mothers with their babies in Kaduna State?
2. What are the nursing mothers' opinions on the determinants of exclusive breastfeeding and mixed feeding practices on the mother and child in Kaduna State?
3. What are the determinants of nursing mothers' socio-economic status on exclusive breastfeeding and mixed feeding practices on the mother and child in Kaduna State?
4. To what extent does maternal level of education determine their breastfeeding practices in Kaduna State?

1.5 Null Hypotheses

The following Null hypotheses were postulated for this study:

$H_0$1: There is no significant difference in the nursing mothers' opinion on the determinants of breastfeeding and mixed feeding practices on mother and child in Kaduna State.

$H_0$2: There is no significant relationship between mothers' socio economic status and the breastfeeding practices in Kaduna state.

$H_0$3 There is no significant relationship between nursing mothers' level of education and the determinants of mothers' breastfeeding practices on the child in Kaduna State**.**

1.6 Significance of the Study

This research work will be useful to nursing and expectant mothers in many ways as the study will enlighten the nursing and expectant mothers on the benefits of appropriate breastfeeding practice and the consequences of deviating from the practice. The findings of this study will also contribute towards educating nursing mothers on how to reduce the risk of exposing infants to different illness by giving them the best start in life through proper breastfeeding.

It will educate young ladies and mothers of tomorrow on the need to embrace proper breastfeeding practices when they become mothers. It will also help them to know the impact of the duration of breastfeeding on their children and themselves.

The study will be beneficial to the society, by discussing proper breastfeeding method which will go a long way to reduce the infant mortality when implemented. The study will find out the method of breastfeeding mostly practiced in Kaduna state which will help the policy makers in the area policy formulation in the primary health care to improve the breastfeeding method practiced among mothers.

It is hoped that the findings of this study will be of great access for possible intervention strategies that will address the wrong notions of breastfeeding. This intervention programme will be expected to encourage home economists to rise to the challenges of enlighten nursing mothers on the need for proper breastfeeding method.

1.7 Basic Assumption of the Study

The study were based on the following assumptions that;

1. exclusive breastfeeding is often practiced by nursing mothers to their babies.
2. nursing mothers are of the opinion that mixed feeding and exclusive breastfeeding practices have impact on their babies in Kaduna State.
3. socio-economic status of nursing mothers determine mixed feeding and exclusive breasting practices on their babies in Kaduna State.
4. maternal level of education has no influence on nursing mothers' breastfeeding practice on their babies in Kaduna State.

1.8 Delimitation of the Study

The study was delimited to the opinions of nursing mothers on the determinants of mothers' breastfeeding practices on the mother and child in Kaduna State. The research work was delimited to Government, private hospitals and clinics in Kaduna State. This work was also delimited to nursing mothers who delivered in the hospitals. It was focused on all nursing mothers attending ante-natal care in some selected Government and private hospitals and clinics. This was because most of these breastfeeding mothers who attended ante-natal care clinics in these selected hospitals before their delivery were taught the benefits and the techniques of breastfeeding; also, their full records were obtained from these hospitals. Some of these pregnant mothers do not deliver their babies in hospital after attending ante-natal; hence the study was mainly delimited to those mothers who delivered their children in the hospital.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter reviewed the related literature in relevant journals, textbooks, magazines and papers presented under the following sub-headings:

2.1 Conceptual Framework
2.2 Concepts of Breastfeeding
2.3 Types of Breastfeeding
2.4 Benefits of Breastfeeding
2.5 Determinants of Exclusive Breastfeeding on the Mother and Child
2.6 Determinants of Mixed Breastfeeding on the Mother and Child
2.7 Determinants of Mothers' Socio-Economic Status on Breastfeeding Practices
2.8 Influence of Maternal Education on Breastfeeding Practice
2.9 Nursing Mothers' Opinion on Breastfeeding
2.10 Empirical Studies
2.11 Summary

2.1 Conceptual Framework

Breastfeeding has been the natural and normal means of feeding infants. In fact, it is one of the defining characteristic of being a mammal. The study is based on two theories: socialist feminism and symbolic interaction. Socialist feminism is chosen because it is useful in identifying what may explain aspects of infant feeding behaviours at both macro and micro social levels. Symbolic interaction is also selected because it

describes how humans perceive, choose lines of action, and make sense of their social worlds.

2.1.1 Socialist Feminism and Infant Breastfeeding Practices

Socialist feminism brings together materialist class analyses and feminist social protest to explain women's oppression. The theory argues that the economically invisible labour of women subsidizes the economy by disguising real costs. These insights are applicable to infant breastfeeding practices. Infant feeding is a form of domestic labour that costs mothers' time and energy without producing income. The infant feeding choices available to women are to formula feed, breastfeed exclusively, or offer the infant a combination of formula and breast milk. As such, mothers who do not breastfeed because of work related constrains must buy formula, representing a large, sought after, capitalist market. The intensive formula marketing that mothers are exposed to is another influence on infant feeding, in that it serves as a barrier to successful breastfeeding. Mothers who intend to breastfeed successfully are persuaded by such media portrayals of formula feeding to switch to Infant feeding. The baby formula industry has been estimated to generate profits annually (Tamaro, 1998). These powerful companies have an economic interest in continued low breastfeeding rates. Infant feeding is tied intimately to micro structures of daily life including: the human body and its involvement in childbearing; home maintenance, with its unpaid, invisible domestic tasks; and emotional sustenance of self and others (Lengermann and Neibrugge-Brantley, 2000). Fatigue with the energy demands required of nursing a baby in addition to domestic and workforce labour may partly explain poor infant feeding practices.

2.1.2 Symbolic Interactionism and Infant Feeding

While socialist feminist theory provides a framework for considering structural implications for infant feeding; symbolic interactionism provides a theory for considering the subjective inner processes that mothers use in making their choices and deciding on the significance of their actions. The development of the self is central to symbolic interactionism. This happens as an individual imaginatively constructs the attitudes of the other about a particular role, and thus anticipates the behaviour of the other. Not all "others" are equally influential in this construction process. The 'generalized other', in the most abstract sense, is the view of relevant rules and roles of society as a whole. In the case of infant feeding, marketing and media portrayals of infant care are influential (Newman and Pittman, 2002). 'Reference groups' are social groups with which people identify that are capable of influencing them. Family, friends, peers, neighborhood, and workplace groups may become such reference groups for mothers who are feeding their infants (Scott and Mostyn, 2003). 'Significant others' are considered the most influential person or group of persons with whom an individual interacts. Infant feeding choices can be framed in symbolic interaction terms. Individual mothers must decide whether they will take on the roles of breastfeeding or mixed feeding, or even both. A mother whose family has a tradition of mixed feeding already has a reference group that may encourage continued mixed feeding.

However, a key significant other, like a husband who supports or encourages breastfeeding, may prompt a behavioural change. A mother's identity may therefore become profoundly shaped by the symbolically charged behaviour of infant feeding in

view of others. Infant feeding practice therefore can be explained in symbolic interactionists' terms.

2.2 Concepts of Breastfeeding

Hornby (1995) opined that breast milk represents complete natural food because of its balanced nature containing carbohydrate, protein, fat, vitamin, minerals and antibodies which provide protection to the baby's body. It is also cheap, clean, safe and easily digested. Breast milk is the only food fully adapted to the physiology of human infants. Optimal breastfeeding is defined as initiating breastfeeding immediately after birth, exclusively breastfeeding until 6 months of infant age, and continuing breastfeeding with age-appropriate introduction of complementary foods up to age two or longer. The World Health Organization Defines Exclusive Breastfeeding (EBF) as providing infants with only "breast milk from the mother or a wet nurse, or expressed breast milk and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines." According to Dennis (1999) exclusive breastfeeding differs from Predominant Breastfeeding (PBF), wherein breast milk constitutes infants' primary nutritional source, but infants are also given other liquids such as water, tea, juices, oral rehydration salt solutions, or ritual fluids. Other definitions in the literature differentiate between exclusive breastfeeding and exclusive breast milk feeding, since the physiological impact on both the mother and the child with milk expression and feeding of expressed milk differs from that of direct breastfeeding.

Exclusive breastfeeding is the most effective global public health intervention for child survival. Therefore, while any breastfeeding is physiologically normal for optimal

health outcomes, early initiation and exclusive breastfeeding in the first 6 months are optimal due to the resultant infant and child survival, growth, and development and maternal health. Human milk generally provides all of the nutrient requirements for infants less than 6 months of age, about half of their energy requirement from 6 – 12 months, and approximately one third throughout the child's second year of life. Stern (1999) stated that when mothers are adequately nourished, human milk includes nearly all of the water, vitamins, minerals, carbohydrates, fats, proteins, digestive enzymes, and hormones that a developing child needs.

If the mother's diet is adequate, the milk produced will be rich in nutrients and more milk will be produced always. Breastfeeding is one of the oldest ways of feeding infants it is the cheapest and easiest way of feeding babies and obtains essential nutrients for growth and body metabolism (Bello, 2001). Breastfeeding is a natural act and a learned behavior. It is dynamic in nature and it is a nutritional, psychological and biological interaction between mother and offspring with each affecting the other. It is the act through which all mammals feed their infants. WHO (2003) have identified breastfeeding as an unequalled way of providing idea food for the healthy growth and development of infants. Most mothers believed that the reasons for not breastfeeding were beyond their decision and control such as the milk is not suitable for the baby. Other women suggested less passive reasons for not breastfeeding.

Breast milk according to Kaine (2004) is made from the ingredients in the blood which are obtained from the food the mother eats. If her diet is inadequate, there will be no storage of ingredient and the breast will not produce as much milk as the only

complete food in nature. This is not surprising since young mammals depend entirely on their mother's milk for nourishment.

In line with this, Riordan and Auerbach (2005) stated that the specific composition of breast milk varies during each feed and on a daily basis, accommodating for fluctuating needs, with the specific nutrients needed taken from the mothers' stores. Breast milk also provides immuno-protective factors for infants, selectively recruiting valuable antibodies and other factors from the mother.

While commercial infant formula manufacturers may attempt to replicate the nutritional components of human milk, there are many factors in human milk that cannot be reproduced and others that cannot be successfully incorporated into a commercially viable breast milk substitute based on non-human milk. Breastfeeding provides both a food and a biologically based interaction between two individuals, both achieving a healthy normal physiological milieu. As a result, lactation/breastfeeding also is associated with less maternal risk of breast and ovarian cancers. Also, Lawrence (2005) EBF also contributed to cost-effective pregnancy spacing. Hence, the use of any commercial infant feeding substitutes increases the drain on family and population resources.

Most traditional societies recognized the importance of breast milk for the survival of the infant because it is perfect and cheaper (Thapa, 2008). Davies and Adetagbo (2009) stated that some mothers do not practice breastfeeding properly. Some of them still give the new born infant glucose, water, and herbs. Breast milk is the best food for babies because it contains all the nutrient the baby requires. Breast milk is produced by mammals' gland of the breast in a female adult. The nutrients found in the breast milk are from food the mothers eat.

King (2010) pointed out that breastfeeding is an emotional subject which is linked to the basic of life and is part of women's total sexual experience. This is an over whelming evidence that breast milk to the exclusion of all other foods is the best and safest food for babies under six months of age and remain indispensable valuable. Breastfeeding is a unique process.

2.3 Types of Breastfeeding

According to Omolalu (2001) breastfeeding are of two types, namely exclusive breastfeeding and mixed feeding.

2.3.1 Exclusive breastfeeding

Savage (1992) pointed out that exclusive breastfeeding means that the baby has mother food or drinks but breast milk not evens a 'dummy' (or a "pacifier"). The best and safest way to feed a baby is exclusive breastfeeding. Babies do not normally need anything else, even in the first few days after they are born, until they are six (6) months old, if they are given other foods or drinks even in the same amount or if they suck on a dummy some of the advantages of breastfeeding may be lost.

The following are keys to stabilized exclusive breastfeeding by (Ekele, (1992) this includes

1. Starting to breastfeed an hour after birth. This ensures that the infant receive colostrum.

2. No giving of pre lacteal drinking first breastfeeding including water, sugar or glucose water, herbal teas or others.
3. Breastfeed frequently during the day and also at night.
4. No giving any food of fluids such as water or infant formula during the first 4-6 months until food is introduced after six months in addition to breast milk.

Savage (1995) reported that the breast milk protects the babies against infection. "Breast milk is clean and free from bacteria so it cannot make a baby ill because it contains anti-infectants. A research conference organized by WHO (1995) indicated that breast milk is a specific space which suit the physiology of species and human milk is the best for human babies. It further stated that breast milk is a complete food; no supplement is required until after six months. It is protective against infections, bacteria's virus and protozoan it is a form of "communication" every time a baby suckles.

Exclusive breastfeeding according to Haggai (1996) means giving breast milk alone with no water or other substituted for six months. Haggai (1996) further stated that breast milk is superior to all infants' formula in terms of growth nutrition and energy. Ogala (1996) defined the baby friendly hospital initiative as a high impact global strategy for achieving optimal nutrition through the promotion, protection and suppose to breastfeeding. He states that exclusive breastfeeding was not only the safest food for babies under the first six month of age but also an indispensable valuable nutrient. It is clear that only exclusive breastfeeding in the first six months of infants life can supply the necessary nutrients for healthy growth at the cheapest, while at the same time, assuring high survival rate of the infants.

Mothers' milk is uniquely superior for infant feeding and is special; all substitute feeding options differ markedly from it. The breast feed infant is the reference or normative model methods must be measured for growth, health development and all other short and long term outcome the American Academic of Pediatrics (AAP) further identified breastfeeding as the ideal method of feeding, and nurturing infants and recognizes breastfeeding as primary in achieving optimal infant and child health growth and development (AAP, 1997).

World Health Organization WHO/United nations international children fund (UNICEF) (1999) confirmed that breast milk is the best food for babies because it provides all the goodness and energy needed for healthy growth and it is easy to digest than any other milk. Breastfeeding gives the baby protection against infections whereby bottle fed babies do not, get this protection. Breast milk is relatively cheaper than powdered milk, all it cost the family is the balance food needed by the mother. Especially baby foods and milk formula are very expensive and not it substitute to breast milk. Breastfeeding does not use up valuable and water resources that may have to be gathered or bought used to boil water for bottle-feed. It can be given whenever the baby is hungry at any time of the day or night. Breast milk is always available at the right temperature and never goes bad. If a mother is breastfeeding a baby frequently by day and night, she is less likely to become pregnant again during this period. Finally he stated that breastfeeding helps to stop maternal bleeding after delivery and helps to develop the emotional bond between mother and child.

Burby (2000) stated 101 reason as to why nursing mothers should breastfeed their infants in the article title promo. The following points were raised.

1 Breastfeeding promotes bonding between mother and baby by establishing *oxytocin* as well as stimulating uterine contractions and milk ejection which promotes the development of maternal behavior.
2 Breastfeeding satisfies babies emotional needs especially feel more comforting when close and cuddle during breastfeed.
3 Breast milk provides infant nutrition which is the references or normative model
4 Breastfeeding as associated with better intelligent and greater academic achievement than children who were fed with infant formula.
5 Breast milk contains immunities to diseases, and aids in the development of baby's immune system which infant formula do not provides.
6 Nursing helps mother to lose weight after delivery by an average of 500 extra calories per day. It enables the mother to retain her normal size and shape.
7 Breast fed infants grow more rapidly than formula fed infants during the first 2-3 months and less quickly, particularly in weight, from 3-12 months. Exclusive breastfeeding needs careful understanding.

Exclusive breastfeeding is defined as giving an infant only breast milk within the first six month of life without adding other food or drink to it (Azubuike and Nkanginime, 2007).

2.3.2 Mixed Feeding

Fakumoto and Kanashiro (2004) reported that in Peru most mothers compliment breast milk with herbal tea as well as other forms of milk to feed their babies. Kwaja (2005) also observed that in Pakistan, as in many traditional cultures, nearly all mothers wished to breast feed their babies but the mother's colostrums were usually thrown away. Instead, water, herbal tea and honey were given to the infant at birth. Njepuome (2005) observed that the right feed infants with breast milk are not fully practice by some Nigeria women.

Mixed feeding according to Garba (2006) is giving semi-solid food such as cereals and mashed vegetables as well as milk feeds from breast or bottle. He advised that milk feeding should commence at four to six months of baby's life and that the child should get used to varied mixed diet before he/she is gradually take off the breast. Fakumolo (2008) reported that in shanty town of Peru which is the capital of Lima breastfeeding was rare to almost all mothers. Most mothers supplement breast milk with herbal tea and other milk. Omololu (2008) explained that giving glucose water during the first few days after birth has been a common hospital practice. It was thought that this help to maintain the infant baby weight until the mother starts to produce sufficient milk.

Technique of Breastfeeding

According to Sear (2006) the time at which a newborn infant is first placed on breast milk varies from one hospital to another. In some, babies are put to breast as soon as the mother and the infant indicate readiness to be together, in others, babies are not put to breast until six to 12 hours after birth. During the first few days the infant gets very

little from the breast. Ginimr (2009) opined that mothers should be comfortably seated with proper support to ensure a relax position. The baby should be held in such a way that the head is raised over one arm to the breast and the mouth directly in front of the nipple and are offered to the baby to ensure a proper "Latch on" feed baby on both breast for at least 10 minutes. As the baby is sucking massage your breast toward the nipple to help the flow of milk. After feeding, the baby should be removed from the breast by placing a finger into the infants' mouth, between the gums. Babies should spend no longer than 12 minutes on a breast as nutrients are gotten during the first 5 minutes. Longer sucking of a breast can lead to soreness of the breast. After breastfeeding, the baby could be burped and cuddled for a while so as to avoid wing colic. Mothers who take normal diet increase the quality of her breast. Breastfeeding mothers are advised to avoid harmful drugs and food which can get into the breast milk and affect the baby.

Demand Feeding

Feeding of the baby when he is hungry is known as demand feeding. The mother feeds the baby with breast milk when he is hungry. When the baby sucks the breast, he nuzzles the nipples, his fingers move rhythmically. This enhances more flow of milk. It is much better to feed the baby on demand. Ameh (2000) stated that you will find that this is the easier and more natural thing to do when you breastfeed your baby. In some instances where there is no problem with the production of breast milk, one will find that the baby hunger period correspond with the mothers full capacity of breast milk. This brings the belief that a mother feel when her baby is crying, even at her complete absence, because her breast bring milk at the time the baby is crying, mothers should vary

their practices according to their particular child nature rhythm and variations in appetite. Demand feeding makes breastfeeding more successful.

Sears (2007) stated that breastfeed infant generally gain weight according to the following guidelines; 0-4 months, 6 pounce per week 4-6months, 4-5 per week, 6-12 months 2-4 per week. It is acceptable for some babies to gain 4-5 pounces per week. This average is taken from the lowest weight and not the birth weight.

The average breastfeed baby doubles its birth weight in 5-6months. By one year, a typical breastfed baby will weigh about 21/2 times its birth weight. At one year breastfed babies tend to be learned than bottle fed babies. By two years, differences in weight gain and the growth between breastfed and formula fed babies is no longer evident (Raman, 2007).

2.4 Benefits of Exclusive Breastfeeding

Olowoniyan and Owolabi (1999) opined that human milk is the idea food for human babies and its constituents are not only current but also in the proper proportions for normal form infection. Azubuike and Nkangiweme (1999) reported that, the primary benefit of breast milk is nutritional. Breastfed babies have less illness because human milk to the infants contains antibodies to disease. About 80% of the cells in breast milk are macrophages, cells that kill bacterial fungi and viruses. Breastfed babies are protected, in varying degrees, from a number of illnesses including peneuivonia botulism bronchitis staphylococcal infections, influenza, ear infections, and measles, mother's milk also produce antibodies against any disease present in their environment, making their milk custom ally designed to fight the disease their babies may be exposed to as well. A breastfed babys' digestive tract contains large amounts of lactobacillus bifidus,

beneficial bacteria that prevents the growth of harmful any organisms. Human milk straight from the breast is always sterilized, never contaminated by polluted water or dirty bottles, which can also lead to diarrhea in the infant sucking of the breast, promote good jaw development as well. It harder work to get milk out of a breast than a bottle, and the exercise strengthens the jaws and encourages the growth of straight, health teeth's.

Breastfeeding is very good for the mother and their baby in the sense that, it makes the nursing mother to lose the excess pounds of weight that she has gain during pregnancy, since nursing uses up extra calories, lactation also stimulates the uterus to contract back to its original size. A nursing mother is forced to get need rest since she must sit down, put her fed up, and relax every few hours while feeding her baby. Nursing at night is easy as well because the nursing mother can be feeding her baby while lying down (Bernard, 1999).

Frequent breastfeeding suppresses ovulation, making it less likely for a nursing mother to menstruate, ovulates breastfeeding is economical. Nursing saves money while providing the nourishment, possible (Almoronth, 1999). Behrman, Kliegman and Johnson, (2000) stated that, the baby enjoy a feeding of security from the warmth and presence of the mother, especially when there is skin to skin contact during breastfeeding. A nursing mother cuddles her infant closely many times during the day. Nursing becomes more than a way to feed a baby it is a means of providing warmth, comfort and security for the baby.

The National Breastfeeding Policy (2000) explain breast feeding is the safest, most suitable and economical method of infant feeding, it plays a significant role in the

maintenance of the health of the baby, strengthens the family and is a powerful contraceptive for some women if practiced properly.

Breast milk according to Behrman, Kliegman and Johnson (2000) emphasize that is the national food for full-term infants during the first months of life. It is always readily available at the proper temperature and needs no time for preparation. The milk is fresh and free from contaminating by bacteria, which reduces the chances of gastro interstitial disturbances. Other benefits include;

1. Freedom from allergy and intolerance to cow's milk which create significant disturbances and feeding difficulties that are not seen in breast-fed infants
2. Human milk contains bacteria agents and viral antibodies including relatively high concentration of secretary antibodies colostrum and milk may be able to synthesize, complement e.tc.
3. Milk from the mother whose diet is sufficient and properly balanced will supply the necessary nutrients, except fluoride and vitamin D.

   Some other benefits of breast-feeding to the mother and child are lit below:

Benefit of Exclusive Breastfeeding to the Mother

1. Postpartum (after delivery) depression is reduced
2. The workload of infant feeding is reduced
3. Physical recuperation from childbirth is faster
4. Emotional bonding results in less child abuse and neglect
5. There is no worry about milk spoiling or running out of supplies
6. There is a woman risk of breast and ovarian cancer

7. Frequent breastfeeding delays the return of menses and helps to protect against another pregnancy. This conserved won stores and spaces children (Owolabi, 1996).

Benefits of Mixed Breastfeeding to the Mother and Child

1. When the mother falls ill, for example breast cancer, it helps the child's to have a substitute feeding.
2. For students and working mothers, mixed breastfeeding helps the baby to feed on other food items when the mothers are not available to breast feed exclusively.
3. The child gradually gets used to the additional nipple.
4. In the absent of the mother due to accidents or death, the child could have a replacement.
5. In the case of twins or triplet whereby the mother is unable to produce sufficient milk, other feed maybe needed to compliment the breast milk.

Disadvantages of Mixed Feeding

1. It is expensive in terms of buying.
2. It has to be carefully prepared.
3. Artificial milk is different from breast milk.
4. It is easily contaminated either during storage or preparation.
5. It does not contain antibodies that can protect infants against infections.

6. It causes digestive problems in infants who cannot tolerate cow milk.

Consequently, diarrhea and vomiting, infections and upper respiratory tract infections are common in bottle feeds infants.

Fakumolo (1994) stated that some common problems associated with mixed feeding are contaminated water and unclean feeding bottle and teats which result to diarrhea in babies. The milks are marketed internationally into two main categories, infant formula, sold as a substitute for breast milk and follow up formula sold as a supplement to breast milk for older infants follow-up formulas carry the same risk of infections as infant formula, if bottles or water are contaminated.

Benefit of Exclusive Breastfeeding to the Child

1. The infant is provided with a close and comfortable physical relationship with the mother
2. A better response to vaccination and faster ability to fight disease
3. Fever dental problems
4. Better psychomotor, emotional and social development
5. An association with higher intelligence

Benefits of Breastfeeding to the Family and Community

The baby friendly hospital initiation which has been described as a global movement for mankind is designated as baby friendly, a health facility must be inspected and certified to be in compliance with certain laid down criteria called ten steps to successful breastfeeding the steps are;

1. Have a written breastfeeding policy
2. Train all health staff to implement this policy
3. Inform all pregnant women about benefits of breastfeeding
4. Help mothers initiate breastfeeding within half an hour of birth
5. Show mothers the best way to breast feed
6. Give newborns no food or drinks apart from breast milk unless medically indicated
7. Practice rooming in by allowing mothers and babies remain together 24 hours a day
8. Encourage breastfeeding on demand
9. Give no teats, pacifiers, dummies or soothes
10. Help start breast feeding support group and refer mother to them (Shalini 1995)

Breastfeeding review according to Oddy (2001) in the magazine titled "Breastfeeding protects against illness and infection, in infants and children" A review of evidence described how mother's milk strengthen the baby's immunize system to resist infections. Even after breastfeeding has stopped, the influence of breast milk may continue to protect the infants. In 2005, an article titled "infant and young child feeding in Nigeria" published by federal ministry of Health, Abuja stated that a baby should be breastfeed from birth to six months of age. Breastfeeding is less expensive and more convenient than bottle feeding. It saves family and national resources it saves the environment (no liters in terms of cans and other wastes) Baby Friendly Hospital Initiative (BFHI).

In an attempt to achieve successful breastfeeding, globally by the year 2000, the WHO and UNIEF launched the BFHI in 1991. The BFHI is an impact, improvement of

infant health and nutrition it is a project through which the practice of exclusive breastfeeding is being supported promoted and projected.

The initiative began in 1992 as tool to achieve the Innocent declaration (Azubuike and Nkanginieme, 2008). It involves the designation of health facilities as baby friendly which encourages mothers to breastfed their babies exclusively. There are different views about breastfeeding from different background and culture in Nigeria. Some people say that breast milk is not enough for the growing infants' needs. If the breast size is small, the milk output may be small, lactation is associated with loss of sexual activity; loss of sexual appeal because of sagging of breasts which occurs as a result of breast-feeding; colostrum is dirty milk and should not be given to the baby. Breast milk can be poisonous to the child. These are all negative facts about breastfeeding behavior.

Disadvantages of Exclusive Breastfeeding

Breastfeeding puts a strain on the mother. Some children will not allow other members of the family to carry them except their own mothers (Kaina, 1984). He state that, breastfeeding can be contaminated with drugs, contraceptives, antibiotic, cigarettes, and alcohol. Breastfeeding restricts the movement of the mother especially when the nursing mother is a working class woman. Further added, that the baby may absorb powerful chemicals through the placenta which affect the sucking reflect.

Some of the problems that interfere with breastfeeding include breast engorgement too little milk or dried up, sucking difficulties flat implies and so on. These are most common reasons mothers give for stopping breastfeeding that babies cry excessively and suck their finger and lip (King 1991), another disadvantages of

breastfeeding is that an underfed child experiences loss of weight and passing of small greenish stools which may be soft or hard.

Some tips that can make breastfeeding easier are listed as followed by Feed and Quise, (2000).

1. Make sure that your baby has his or her mouth open wide before you allow them to latch onto your breast, this helps prevent some nipples.
2. Only use breast pads without plastic backing
3. If you need to pump your breast milk for when you are away, invest in a good pump. Ask your friends and family for recommendations in buying the right pumps.
4. For optimal expression of milk, pump, first thing in the morning from the opposite breast that the baby fed from. Pour the expressed milk into freezer bags and lay flat in the freezer until solid. Make sure to write the amount and the date on the bag
5. Don't use soap or any other cleansing agent on your nipples
6. Wear bottom up shirts as much as possible and undue them from the bottom to increase discretion when you are out and have to nurse.
7. If you run into any problems go to a location consultant right away.
8. If you have any cracking and dryness, only apply pure lanolin to the nipple, it is the only thing that will truly help

Once breastfeeding is established, most mothers and babies will go on to enjoy a healthy breastfeeding relationship (Panchula, 2003). The further stress that, there is a chance that the baby may start biting after he or she starts growing teeth. This normally

happens when the baby is four to ten months old. Biting the nipples can cause pain and injuring. The baby should be taught not to bite the nipple by removing them from your breast immediately after biting for a short time.

Breastfed babies eat more often than formula fed babies since breast milk is more quickly digested and leaves the stomach empty more frequently. This puts a little stress on the mother because of the potential necessity for more frequent feedings if the mother develops certain medical conditions, whether or not to continue breastfeeding may need to be reassessed (America Academy of Pediatrics, 2005).

Wheldon, (2006) reported that women who have an epidural during childbirth are more likely to have problems with breastfeeding. Mothers who have the pain killing medication are more likely to struggle feeding their baby in the first week and give up altogether within six months.

The breasts of a breastfeeding woman get ready to make milk during pregnancy milk production are controlled by hormones in the body which is a complicated process. Anything that interrupts this system may interfere with proper breastfeeding (Martin, 2007). Successful breastfeeding depends in large part on the mother's confidence in her ability to breastfed. This involves having the proper environment in which to nurse and being prepared emotionally and physically for the experience. Whereby the mother is free from pain, relaxed and supported by family and others, she is more likely to be successful. Proper nipple care, positioning of the infant, and nursing frequently may help to prevent some common breastfeeding problems.

2.5 Impact of Exclusive Breastfeeding on both the Mother and Child

Mothers with positive attitude give more milk to their children and are more successful than mothers with negative feeling. The success or failure of previous breastfeeding experience has a strong impact on a mother's interest in breastfeeding as well as attitudes to it. Women who breastfeed their infants are calmer and affectionate than those women who do not breastfeed. The behaviour of the baby is an important consideration. If the baby has difficulty in sucking, this may prove to be discouraging in the mother. The mother also needs sufficient rest. It is important to have enough relaxation and adequate sleep during the day, because restlessness of the mind affects the flow of breast milk and if the baby is not fed well, the mother will be disturbed that will affect her health which will also affect the baby condition of health unless supplementary food are introduced (Macauley, 1999).Some mothers don't want to breast feed their babies because they feel it affect the shape of their breast. During breastfeeding the breast is full and heavy and after weaning it become like slippers and some shy away from breastfeeding.

According to Ibrahim (1999) the mother's own personality and life experience are also important. Mother's with positive attitude who react to their babies with joy and delight are on the whole more successful in breastfeeding. It is clear that condiment and cheerful approach form those who attend the mother in friendly and sympathetic environment will go a long way in creating the emotional environment in which the physiological process of lactation can be initiated and developed. Some mothers do not want to breast feed their babies. They feel that breastfeeding is boring.

Nutritional requirement of lactating mother is another aspect that affects a nursing mother during lactation, if her nutritional intake is not adequate, it will affect her growth and development therefore, nursing mothers food must be such that it provide not only her own needs but also those of the growing infant (Winick, 2001 and Derek (2001). The attitudes to breastfeeding differ from mother to mother, most educated young women dislike breastfeeding and some simply have no time because of their business or professional engagement. Others feel it is un-lady like to be seen breastfeeding their babies at the time when there are different brands of baby food in stores. They feel breastfeeding belong to the rural uneducated women. Others believe that during pregnancy and lactation their sexual desire diminished and it was disgusting when the breast milk is coming out during sexual intercourse. They feel that breastfeeding affects their sexual satisfaction with their mate. Some feel that breastfeeding a baby need a great deal of time and energy and there is less time available for other things. Some mothers feel that breastfeeding interfere with their social life, some said it is time consuming and tiring (Ameh, 2002).

According to Kaine (2002) despite this entire attitude, there are women educated and uneducated, urban and rural who develop pleasure in breastfeeding for the following reasons:

1. They know that mother's milk is better than any brand of baby food in the store.
2. They love the feeling of satisfaction and fulfillment a woman gets from breastfeeding
3. They also know that breast milk helps in better emotional and physical development of the child.

4. It also helps their breast to return to its normal post-natal size instead of remaining heavy and oversized after giving birth.
5. It enables mother and baby to interact more fully and it is cheaper.

Hoffman (2002) in his article titled "Dialogue on diarrhea", issue No 38 supported the ideas of UNICEF and WHO on the steps to be taken for exclusive breastfeeding appropriately which include keeping the mothers who have immediate contact with their babies after birth together are more likely to continue breastfeeding. This also showed that the baby received the first milk (Colostrums), which gives protection against infection. He further added that it is important to allow the mother and baby to stay together continuously known as rooming-in'. This provides the conditions needed for successful breastfeeding, no bottles and on no replacement of breast milk by water and other supplement along with breast milk.

Another reason for dictating breastfeeding is linked with parental up bring of the mother, when she was a child. Many mothers instill the belief into their daughters that the breast is a forbidden zone never to be exposed. Other things are modesty and a feeling of distaste formed a reason for their preference for formula feeling and some mothers studies we "repelled" by the idea of giving their breast to their infant that they feel embarrassed at the idea.

Other studies of higher social groups showed that breastfeeding will interfere with the nursing mother social life and the higher social class also said breastfeeding will spoil the shape of the mother breast, whatever reason a nursing mother decides against breastfeeding, breast milk is still the best food for an infant (Williams, 2003).

Breast milk is the most important channel for the transfer of immunoglobulin from the mother to the child. It also actively protect against infection, allergy and stimulates the development of the infants own immune system. Breastfeeding also enhances mother-child bonding this helps to consolidate love and compassion in the child and also help in the development of appropriate abilities in the child. Exclusive breastfeeding helps the family to reduce cost of child care in terms of purchase of breast milk substitute and accessories, reduced morbidity and therefore has less medical care expenditure; it is environmental friendly, no littering in terms of cans and other wastes

Brown (2006) opined that even malnourishment women can maintain growth of infants up to four and six months of age by exclusive breastfeeding and then introducing other foods or liquids. It is important to make sure that mothers are adequately fed to prevent their losing too much weight while they are breastfeeding.

2.6 Impact of mixed Breastfeeding on both the Mother and Child

Mixed breastfeeding is advantageous to the mother and the child for the following reasons;

- It saves the mother the stress of breastfeeding
- It makes their breast not to be flat.
- It helps to maintain the baby weight when the mother is not producing enough milk.

Mixed feeding practice exposes the children to chronic diseases such as allergies and asthma, and infectious diseases including meningitis, diarrhea, ear infections, and pneumonia. In line with this, Azubuike and Nkanginieme (1999) opined that the most

important advantage to breastfeeding is that, breast milk provides an infant with important protection against chronic diseases such as allergies and asthma, and infectious diseases including meningitis, diarrhea, ear infections, and pneumonia. The immune components of breast milk constantly change to meet the infants need to be protected against new infections. As the infant's own immune system grows more capable, the concentration of antibodies and anti-infection agents in the milk gradually declines. Breastfeeding facilitate bonding between a mother and infant that is emotionally satisfying to both participants.

Types of breastfeeding are also distinguished by the duration of breastfeeding. Partial breastfeeding duration was defined as a baby receiving formula and/or food and breast milk, and any breastfeeding duration was defined as the total number of months of exclusive and partial breastfeeding.

According to Lee (2000) in the United States a study published by the Centers for Disease Control and Prevention found that 75 percent of mothers began breastfeeding. However, by 6 months, the rate fell to 43% and was just 22% after a year. Breastfeeding rates vary across the country, from nearly 90 percent initiating breastfeeding in Utah to 52.5 percent in Mississippi. The health care law now requires large employers to provide breast-feeding mothers with breaks and a private space to feed their babies.

Extended breast-feeding was at one time a very common practice worldwide. Dr. Martin Stein wrote in Parental Concerns about Extended Breastfeeding in a Toddler that "The discussion about extended nursing is similar to that of co-sleeping. They are both characteristics of child rearing that are closely linked to time and place. In most cultures before the 20th century, both practices were the norm. Changes in social, economical,

and sexual expectations altered our views of the meaning of breastfeeding and bed sharing." Extended breastfeeding was encouraged in Ancient Greek, Hebrew, and Muslim cultures. The Koran, the Talmud, and the writings of Aristotle all recommend breastfeeding for 2 to 3 years. In Breastfeeding Beyond 6 Months: Mothers' Perceptions of the Negative and Positive Consequences, Dr. S. B. Reamer states that "Over the past 100 years of American history, the acceptance of unrestricted nursing decreased and the age acceptable for weaning dropped dramatically, until the average weaning age was 3 months in the 1970's (Kramer, Chalmers and Hodnett, 2001)

In the United States overall, 43% of babies are breastfed until 6 months and 22.4% are breastfed until 12 months, though breastfeeding rates varied among the states. Breastfeeding rates at 6 months rose from 34.2% in 2000 to 43.5% in 2006 and the rates at 12 months rose from 15.7% in 2000 to 22.7% in 2006. The U.S. Healthy People 2010 goals were to have at least 60% of babies exclusively breastfed at 3 months and 25% of babies exclusively breastfed at 6 months so this goal has yet to be met.

Global practices

While breastfeeding beyond 1 year of age is considered extended breastfeeding in the United States, experts say that the average age of weaning worldwide is 4 years. In Nigeria, West Africa, the average length of breastfeeding is 22.6 months and in India, mothers commonly breastfeed their children until 3 to 4 years of age. Stein says that "In India, women often wean their 3 or 4-year-old by putting the juice of a bitter gourd or melon on their nipples." Although the American Academy of Pediatrics stated in 1997 that, "Breastfeeding should be continued for at least the first year of life and beyond for

as long as mutually desired by mother and child. This helps the child to grow stronger immune system and the child with long period of breastfeeding grows stronger even physically. The World Health Organization recommends breastfeeding for at least a year.

Western Practices

Elizabeth Baldwin says in Extended Breastfeeding and the Law, that "Because our culture tends to view the breast as sexual, it can be hard for people to realize that breastfeeding is the natural way to nurture children." In Western countries such as The United States of America, Canada, and Great Britain, extended breastfeeding is a very taboo act. It is difficult to obtain accurate information and statistics about extended breastfeeding in these countries because of the mother's embarrassment. Mothers that nurse longer than the social norm sometimes hide their practices from all but very close family members and friends. This is called "closet nursing". There are several organizations in place to support mothers that practice extended breastfeeding. These organizations include the International Childbirth Education Association and La Leche League International. In a study published by the Journal of Tropical Pediatrics, 24% of mothers nursing past 6 months felt social hostility towards them. This number grew to 42% when mothers were nursing after 1 year of age. Also, 10% of mothers claimed embarrassment when more mobile, verbal toddlers made known in public the fact that they were nursed.

According to Campbell Elbourne and Altman (2004) given the frequently studied and reported associations between breastfeeding and cognitive development and the intimate mother–infant physical and emotional contact during the act of breastfeeding, surprisingly few studies have reported on the long-term effects of infant feeding on child

behavior and maternal adjustment. Short-term studies during infancy reported effects on infant crying and fussing and sleep patterns but no effect on mother-infant attachment behavior. A recent US study reported a strong protective effect of breastfeeding (especially if prolonged) against nocturnal enuresis, which the authors attributed to accelerated neurodevelopment maturation.

A New Zealand study reported that first-year undergraduate psychology students who had been breastfed for 3 months had lower anxiety scores but showed no differences in neurotic or extroverted personality characteristics, compared with those who were never breastfed or were breastfed for a shorter duration. In long-term follow-up of a birth cohort study from New Zealand, adolescents who had been breastfed for 4 months reported their mothers as having been more caring and less overprotective but had no reduction in risk for juvenile offending, substance use, or mental illness. One Danish study reported a strong association between early weaning (within the first 2 weeks of birth) and early alcoholism among adult men (Goodwin, Gabrielli and Penick, 1999). Finally, 2 long-term studies relating infant feeding to schizophrenia or affective disorder in adulthood reported conflicting results (Leask, Done, Crow, Richards and Jones, 2000)

All of this evidence is based on observational (no experimental) studies. Although many of these studies controlled statistically for demographic factors and socioeconomic differences among mothers with different feeding practices, all of their reported associations are likely to be confounded by more subtle differences in the mother's behavior or her interaction with the infant. According to Goodman, Renfrew and Mullick (2000) these differences are extremely difficult to measure and virtually impossible to control for in observational studies. In the mid-1990s, we designed and implemented the

Promotion of Breastfeeding Intervention Trial (PROBIT), a large, cluster-randomized trial in the Republic of Belarus. In this article, we report on measures of parent- and teacher-reported child behavior, maternal self-reported adjustment, and breastfeeding of the subsequent sibling on the basis of follow-up of the cohort when the children were 6.5 years of age. We hypothesized that the enhanced exclusivity and duration of breastfeeding previously reported to result from the intervention would increase maternal–infant physical contact and consumption of bioactive components of breast milk and thereby lead to long-term improvements in conduct and behavior.

2.7 Determinants of Socio-Economic Status on Breastfeeding

Omotola and Akinyele (1993) carried out a study to determine the breastfeeding pattern of nine hundred (900) babies from the low income families in Ibadan. The study was undertaken to obtain current breastfeeding practices of babies from the low socio-economic group. The breastfeeding patterns through the use of questionnaire administered to the mothers and the interview procedure at five locations in Ibadan over a period of one year. The respondents were grouped into three based on geographical areas and the inhabitants were mixtures indigenes, native of Ibadan and immigrants from other parts of the old western region. The background information collected was analysed using descriptive statistics. The results of the study showed that;

1. Uneducated and poorly educated mothers have short time breastfeeding
2. Educational status of mothers is positively related to the method of breastfeeding adopted.

3. Breastfeed infants showed satisfactory growth up to 6 months

Azubuike and Nkanimene, (1999) stated that many external factors also influence breastfeeding behaviours and lead to lactation failure. These factors include inadequate knowledge about breastfeeding and infant nutrition, misconception and fears held by lactating women about breast milk and breastfeeding lack of social support and hospital practices that discourage breastfeeding. Other factors that may adversely affect breastfeeding include; material illness, breast abscess, breast engorgement, cracked nipples, maternal alcohol/substance abuse and psychological disposition of the mother. These also include the following.

1. Breast milk is not enough
2. Breast size is small and therefore milk output may be small
3. Loss of sexual activity during lactation
4. Breast may sag as a result of breastfeeding with subsequent loss of sexual appeal
5. Breastfeeding is no longer fashionable
6. Breast milk can be poisonous to the baby
7. Colostrums are dirty milk and should not be given to the baby

2.8 Determinants of Maternal Education on Breastfeeding

Gershoff and data (1993) carried out their studies in rural lowland of Bangladesh. They used sport and event observations from 185 children age 4.27 months in other to examine whether child feeding practices differed with mother's education and with house hold education. Each child and his/her caretakers were observed for a minimum of 20 hours over 6 months, only 35% of mothers exploratory partial corrections and step wish

multiple regression analysed revealed significant behavioural with both maternal and household miasmas of education, while controlling for wealth caretakers in families with education were found to feed their children more frequently in cleaner and more protected places.

Virdin (1996) studied five rural communities in Nigeria and shows that the effects of maternal education on the initiation of breastfeeding were highly important. It is noted that mothers with either primary or secondary school education were more likely to give baby breast milk earlier than the illiterate mothers. Biecego and Boerma (1997) reported that lower level of maternal education could significantly elevate the risk of post prenatal morality being twice as sensitive as neonatal mortality to affect education.

The effects of maternal status depend on socio-environmental conditions analysed by Reed and Nlamcogo (1999), the associations were examined for differences across socio-economic levels using data collected from 14 rural communities of Benin for 435 infants, village level indicators of households wealth were used together with 2 scores to partition the sample into three level of socio-economic relative to conditions more or less conducive to child growth. The result showed that the relationship was flat and non-significant in the lowest socio environment; positive and significant ($P<0.05$) in intermediate conditions while those infants of mothers attaining high levels of education, an unexpected negative association was found.

It is also proved that even though maternal education is indeed very much intertwined with overall socio-economic status, it has a perpetuating effect on the survival of children in Bangladesh (Guldan, 2000).

Wardutul, (2001) explained education as strategy for child's survival and health in developing countries with special reference to Bangladash. He further said that socio-economic factors like income, occupation, education (none specifically on mothers) and social class often mentioned as impotent factor in influencing mother which determine their health and illness behavior.

The relationship between maternal education and children's health is no longer an issue to be debated, there exists, some research information on the mechanisms through which maternal education works to improve children's health. A few of the possible mechanisms that have been focused so far are stated below.

1. Education, makes a woman conscious about the wellbeing of herself and her family. It gives the basic ideas, about the path to wellbeing and also equips and encourages to increase her knowledge on health living.
2. Education helps to form the attitude to practice manner of hygiene.
3. Education helps mothers with the knowledge of scientific cause of diseases and proper healthy behaviour and illness behavior for meventive and curative measures.
4. Education encourages mothers to adopt proper feeding practices
5. Education makes the mother more willing to use health care services when necessary and preparing them for overcoming the behaviours in doing so
6. Education allows greater exposure to the mass media, which can keep mothers better informed about the health issues
7. Education empowers mother to make and implement proper and timely decision regarding their children's health.

8. An educated mother is more likely a better opportunity to access these health education programmes through her employment status than an uneducated mother unless education programmes are available for all mothers.

Luome (2002) showed that maternal education is another factor which exerts an influence in breastfeeding. Employed mothers are less likely a breastfeed or do so for a shorter time than housewives. Even among working mothers, professional have been shown to breastfeed less than nonprofessionals. Unless working conditions encourage this.

2.9 Nursing Mothers' Opinion on Breastfeeding

Many nursing mothers are of the opinion that they breastfeed their babies not using any common method of breastfeeding practice. With this practice, most of them said that their babies are healthy and strong. In line with this Andrew (2006) stated that of the 288 mothers who were breastfeeding at 4 weeks and had a complete 12-week interview, 152 (53%) were exclusively breastfeeding their infants at 12 weeks. Mothers who discontinued exclusive breastfeeding were more likely to have experienced problems with their infant latching on or sucking. Clinicians reported limited time during preventive visits to address breastfeeding problems as a very important barrier to promoting breastfeeding. Obstetric providers were least confident in resolving problems with mothers not producing enough breast milk. Pediatric providers were least confident in resolving problems with breast pain or tenderness or cracked or painful nipples.

In the final multivariate model, mothers whose pediatric providers' recommended formula supplementation if an infant was not gaining enough weight or who considered

their advice to mothers on breastfeeding duration to be not very important were more likely to have discontinued exclusive breastfeeding by 12 weeks postpartum. Black mothers were significantly more likely to discontinue exclusive breastfeeding by 12 weeks. Clinicians' practices regarding formula supplementation of healthy infants and their opinions about the importance of their breastfeeding advice are associated with the likelihood that mothers will continue exclusive breastfeeding. Policies to enhance clinicians' abilities to address breastfeeding problems within the constraints of busy practices could improve their ability to support exclusive breastfeeding.

2.10 Empirical Studies

The researcher reviewed journal articles; thesis and research related reports and came up with the following on the topic.

Adamu (2003) conducted a study on the knowledge, attitude and practice of breastfeeding among mothers of children under 0-2 years in Kaduna state. The researcher raised four specific objectives, among which include; finding out the breastfeeding practices adopted by nursing mothers and assessing the attitude of nursing mothers towards breastfeeding practice in Kaduna state. Based on these objectives, the researcher formulated research questions and Null hypotheses. Survey research design was adopted by the researcher and a sample of 780 respondents which were drawn using random sampling method from the population of 554, 280. The researcher used questionnaire to collect data from the respondents. The data collected were analysed using percentages. The Null hypotheses were tested using Pearson Product Moment Correlation and chi-square statistics. 432 (55.6%) had children less than 6 months old,

while 348 (44.68%) had older infants. About 98.0% of mothers practiced one form of breastfeeding or the other. The breastfeeding rate was 38.0%. The findings revealed that the study was a close linkage between the attitudes of the respondents to breastfeeding practice that is 54% had positive attitude, while 44% actually practiced breastfeeding on the mother and child.

The present study used Adamus' method which was survey research because it was relevant for the current study since the study intends to use questionnaire for data gathering. However, the researcher did not find the impact of each of the breastfeeding methods.

Uchendu, (2005) conducted a study on practices of breastfeeding among nursing mothers seen at the university of Nigeria Teaching Hospital, Nsukka. Four objectives were raised in the study. One of which was to find out the technique of breastfeeding practices among nursing mothers. The study adopted the use of survey research design, 350 respondents were sampled using random sample, from the population of 3,150. Data collected from the study were through the administering of questionnaire to the respondents. Percentages and means were used to analyse the research questions raised in the study. While Null hypotheses formulated in the study were tested using chi-square and t-test.

The findings from the study revealed that among the nursing mother who visited the University of Nigeria Teaching Hospital, Nsukka, 90%had adequate knowledge of breastfeeding, 39(21.2%) practiced breastfeeding for all their children, while 95(57.6%) mothers had never practiced breastfeeding with any child.

Uchendus' study was useful to the present study as one of the objectives identified from the study, was technique of breastfeeding practice among nursing mothers, which formed part of the literature review in the present study and also one of the objectives identified in the present study. The present study also showed similarities with the past study in the sense that the present study considered the use of questionnaire in collecting data, while random sampling procedure was used to select the sample. Some of the dissimilarities were that the present study made use of the t-test in testing the Null hypotheses, compared to the past research which made use of both t-test and Chi-square statistics. Uchendus' study was good, however, the researchers did not indicate that multiple response were used for the study because the percentage added up was more than 100%, while the present research used frequency, means and percentiles to analysis the research questions.

Ajfand (2006) carried out a survey research on the factors influencing breastfeeding practice among mothers of children age 4 to 24 months in Benin City, Edo State Nigeria. The researcher randomly sample 600 mothers. Data collections were made through the use of administering of questionnaire to the nursing mothers. Chi-square statistics were used to test the null hypotheses stated in the study.

Findings from the study revealed that poverty and family background were identified factors affecting breastfeeding practice among nursing mothers in Benin City.

The present study shared similarities with the past study in the sense that, the present study examined the influence of socio economic status of nursing mothers on breastfeeding, which formed part of the studies objectives. While the family background

was also be considered in the Demographic characteristics of the respondents in the present study. The present study also employed the use of simple random sampling procedure in selecting the sample size. The dissimilarities, was in the types of statistics that were used in the past research, as the present research employed the use of inferential statistics.

Manama (2008) carried out a study on the effects of breastfeeding on the mother and child in Bakwu East district of Ghana. Three objectives were raised from the study among which included determining the impact of breastfeeding on the child and mother. The sample size comprised 256 nursing mother; descriptive statistical measures such as percentage and mean were employed in addition to standard deviation. The findings revealed that children that were well breastfeed looked healthier than the ones that were not well breastfed.

Manama's research was similar to the study because the study identified the impact of breastfeeding on the child and mother, which served as the main focus of the present study. Like the previous study, the present study made use of descriptive statistical measures such as frequencies percentile and means. However, dissimilarities lie in the sample size of the study and where the previous study was conducted. Unlike the previous study, the present study made use of 321 nursing mothers from Zaria metropolis in Kaduna State, where the study was conducted.

Manama study was quite good, only that the study, was not subjected to any type of statistical test, which would have formed a relevant result to the present study. Hence

the present study tested four null hypotheses as such; independent t-test inferential statistics was used to test the Null hypotheses.

Ada (2008) conducted a study on the socio economic correlates of breastfeeding among women in Agenebode, in Edo State. The objectives were to identify factors affecting breastfeeding among nursing mothers in Agenebode and to examine the relationship between factor and breastfeeding among nursing mothers. The sample size comprised of 550 nursing mothers from the population of 13, 178. Research instrument used was questionnaire, while descriptive statistics was used in analyzing the research question included mean and standard deviation. Analyses of variance, t-test and Pearson Product Movement Correlation were used to test the Null hypotheses rose in the study.

The finding of the study revealed that breastfeeding rate in the environment was very low due to the low level of knowledge among nursing mothers.

The present study shared similarities with Ada's study because the present study will also use nursing mothers as well. Another was on the aspect of Socio-Economic Status of the respondent, which the present study considered as one of its objective of the study. However, the differences lie in the fact that Ada focused on the socio economic correlates of breastfeeding among women, while the present study was based on the impact of breastfeeding on the mother and child in Kaduna State. In the present researchers view, Ada's scope of the study was very limited as the study would only be delimited to the socio economic correlates of breastfeeding mothers compared to the present study.

Okeh (2010) carried out a research on breastfeeding and the mother child relationship. The researcher drew sample from 190 women, whom were civil servants, traders, students and housewives the post natal care unit of Ebonyi State University Teaching Hospital Abakaliki, Nigeria (EBSUTHAL). The study aimed at determining the relationship that exist between a mother and child and various breastfeeding habits. Simple random sampling procedure was adopted in selecting the sample of 190 women. Research instrument used for the study was questionnaire, while a chi-square statistics was used to test the relationship of the variables under a 5% level of significance.

The finding from the study revealed that exclusive breastfeeding was found to be dependent on a woman's occupation; however the study revealed from its analysis that there was a significant relationship between a mothers' decision to feed her child with breast milk as well as semi solid food and those who exclusive breastfeeding was found to be dependent on a woman's occupation; however at the same time the study revealed from its analysis that there was a significant relationship between a mothers' decision to feed her child with breast milk as well as semi solid food and those who chose to breastfeed exclusively.

Okon's study with the present study being carried out was similar in the sense that both studies used breastfeeding mothers. The present study also used breastfeeding mothers. The questionnaire was used to collect data from the respondents. The difference lies in the fact that Okon's study was based on breastfeeding and the mother-child relationship. Another major difference is that Okon used chi-square in testing the four null hypotheses raised in the study, while the present study used t-test, to test the significant differences in the mean responses of the nursing mothers. Okon has done a

good research work but in the opinion of the present researcher the number of respondents used seemed too small, compared to the present research that employed the use of 321 respondents, as against 190 respondents from the previous research. Another observation was that the researcher would have based the research on the impact of breastfeeding on mother and child instead of mother child relationship.

Institute for social and Economic Research (2012) examined the effects of breastfeeding on children, mothers and employers in United States. The main objective of the study was to examine the relationship between breastfeeding and a child's early development including early literacy and numeracy skills at key stages 1 and 2. The studies also explored the links between breastfeeding and the health of mothers. The study made use of the millennium cohort study (MCS). The MCS is a nationally representative study. The research design employed was longitudinal survey. Sample size from the study comprised of over 18,000 children born in United States in 2000 and 2001. Data were collected when the children were aged a month, 3 years and at entry to primary school (age 5). Research instrument used to collect the data were questionnaire and oral tape recorded interview. Percentages and frequency counts was use to analyse the study.

Major findings from the study revealed that the employers' decision to introduce family friendly working practices in a unified theoretical framework helped to reduce their absenteeism rates and decisions to the return to work after birth.

Present study was similar to the institute for social and economic research study, because the present study was on the breastfeeding children and their mothers. The

present study also observed the socio economic status of the nursing mother which in fact formed part of the research objectives. However, dissimilarities lie in the research design and the instrument used in collecting data. The present study made use of descriptive research design and the use of questionnaire was employed in collecting data. Another major difference lies in the sample size. The present study made use of 321 nursing mothers compared to the past research which made use of over 18,000 sample size. However the present study was conducted in Kaduna State in Nigeria.

Although the past researcher has done a good research work but in the opinion of the present researcher the data from the study could have been analysed using means and standard deviation.

2.11 Summary of the Reviewed Literatures

In this chapter, a review was made on literature and research studies that were related to the study. The literature revealed that human breast milk remains the healthiest form of milk for human babies with few exceptions such as, when the mother is taking certain drugs or is infected with tuberculosis or HIV. There are two basic types of breastfeeding practiced (exclusive and mixed breastfeeding). Educated mothers' were likely to have better opportunity to access the health educational programme through her employment status than uneducated mother. It was believed that breastfeeding simply mean feeding baby only with breast milk for six months. WHO opined that total breast milk should be given to babies; that is why the government imposed Baby Friendly Hospital Initiative (BFH) for nursing mothers.

Finally, a lot of literature reviewed on this topic studied the types and factors affecting breastfeeding practices. None of the literature reviewed researched the determinants of mothers' breastfeeding practices in Kaduna State, which was the gap that this study intends to focus on.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

This chapter presents the research design and methodology that will be used for this study under the following sub-headings:

3.1 Research Design

3.2 Population for the Study

3.3 Sample and Sampling Procedure

3.4 Instrument for Data Collection

3.4.1 Validity of the Instrument

3.4.2 Pilot Study

3.4.3 Reliability of the Instrument

3.5 Procedure for Data Collection

3.6 Procedure for Data Analysis

3.1 Research Design

The research design used was descriptive research design. The descriptive survey design is a mean of reporting data collected from people of items. Olayiwola (2001) said that survey design is an effective way of gathering data from different sources with short time at a relatively cheaper cost. Survey method was used to collect the data for the study with the use of researcher's designed structured questionnaire.

3.2 Population for the Study

The population of the study comprised of the nursing mothers who attended ante-natal care in different hospitals in Zaria metropolis.

According to Kaduna state ministry of Health Secretariat, Statistical Units (HSSU), Zaria (2012), the total of all nursing mothers who attended ante-natal clinics was estimated to be three thousand, two hundred and five (3205) the breakdown of the population of nursing mothers is stated below:

Table 3.1 Population for the Study

S/No	Type of Hospital	Name of Hospital	Population
1	**Government**	Ahmadu Bello University Teaching Hospital, Shika, Zaria	200
2		General Comprehensive Children Health Centre Sabo Gari, Zaria	150
3		Institute of Children Health, Banzazzau, Zaria	100
4		Government Health hospital GRA, Zaria	110
5		Major Ibrahim Abdullahi Specialist Hospital Sabo-Gari, Zaria	120
6		Gamba Sawaba Specialist hospital Kofan Gayan, Zaria	100
7		Health Centre Clinic, Palladan, Zaria	110
8		Family Health Care Clinic, Samaru, Zaria	100
9		Health Centre Clinic, Tudun Wada, Zaria	70
10		Health Centre Clinic, Hanwa, Zaria	120
11		Primary Health Care Clinic, Bassawa, Zaria	70
12		Primary Health Care, Kwamba, Zaria	70
	Private		
1		Mayfair Hospitals, Sabo Gari, Zaria	140
2		Jama'a Hospital, Samaru, Zaria	120
3		Limi Hospital and Maternity, Hanwa, Zaria	150
4		Muslim Specialist Hospitals and Maternity, Gwargwaje, Zaria	100
5		Nana Hospital and Maternity, Sabo Gari, Zaria	70
6		Salama Infirmity Hospital, Kwangila, Zaria	100
7		Savannah Poly Hospital, Samaru, Zaria	75
8		St Lukes Anglican Hospital, Wusasa, Zaria	180
9		Zaria Clinic, Tudun Wada, Zaria	120
10		Mummy Nursing and Maternity Clinic Kwangila, Zaria	75
11		Aloanye Maternity Clinic, Gaskiya, Zaria	70
12		Mamara Clinic Sabo, Zaria	100
13		Pal Maternity and Child Care, PZ, Zaria	120
14		Sakadadi Clinic, Zaria	100
15		Bawa Memorial Clinic, Zaria	130
16		Muchia Clinic, Zaria	80
17		Lydia Clinic Palladan, Zaria	75
18		Bassawa Health Care Centre, Zaria	80
		Total 30	**3,205**

Source: Nursing Mothers Statistical Units, Kaduna State Ministry of Health Secretariat, Zaria (2012).

3.3 Sample Size and Sampling Procedure

The sample of this study was drawn from the thirty different hospitals in Zaria metropolis Kaduna state. From the population of three thousand, two hundred and five (3205), a sample size of 321 was selected using proportionate sampling procedure. The sampling procedure was employed to selected 10 nursing mothers from 30 different hospitals, which provided a sample of 321 nursing mothers for the study. This sampling procedure is supported by Dalen (1973)

The breakdown of the sample size is given in Table 3.2.

Table 3.2 Sample Size for the Study

S/No	Type of Hospital	Name of Hospital	Population	Sample
1	**Government**	Ahmadu Bello University Teaching Hospital, Shika, Zaria	200	20
2		General Comprehensive Children Health Centre Sabo Gari, Zaria	150	15
3		Institute of Children Health, Banzazzau, Zaria	100	10
4		Government Health Hospital GRA, Zaria	110	11
5		Major Ibrahim Abdullahi Specialist Hospital Sabo-Gari, Zaria	120	12
6		Gamba Sawaba Specialist Hospital Kofan Gayan, Zaria	100	10
7		Health Centre Clinic, Palladan, Zaria	110	11
8		Family Health Care Clinic, Samaru, Zaria	100	10
9		Health Centre Clinic, Tudun Wada, Zaria	70	7
10		Health Centre Clinic, Hanwa, Zaria	120	12
11		Primary Health Care Clinic, Bassawa, Zaria	70	7
12		Primary Health Care, Kwamba, Zaria	70	7
	Private			
1		Mayfair Hospitals, Sabo Gari, Zaria	140	14
2		Jama'a Hospital, Samaru, Zaria	120	12
3		Limi Hospital and Maternity, Hanwa, Zaria	150	15
4		Muslim Specialist Hospitals and Maternity, Gwargwaje Zaria	100	10
5		Nana Hospital and Maternity, Sabo Gari, Zaria	70	7
6		Salama Infirmity Hospital, Kwangila, Zaria	100	10
7		Savannah Poly Hospital, Samaru, Zaria	75	8
8		St Lukes Anglican Hospital, Wusasa, Zaria	180	18
9		Zaria Clinic, Tudun Wada, Zaria	120	12
10		Mummy Nursing and Maternity Clinic Kwangila, Zaria	75	8
11		Aloanye Maternity Clinic, Gaskiya, Zaria	70	7
12		Mamara Clinic Sabo, Zaria	100	10
13		Pal Maternity and Child Care, PZ, Zaria	120	12
14		Sakadadi Clinic, Zaria	100	10
15		Bawa Memorial Clinic, Zaria	130	13
16		Muchia Clinic, Zaria	80	8
17		Lydia Clinic Palladan, Zaria	75	8
18		Bassawa Health Care Centre, Zaria	80	8
		Total 30	**3,205**	**321**

Source: Nursing Mothers Statistical Units, Kaduna State Ministry of Health Secretariat, Zaria (2012).

3.4 Instrument for Data Collection

Designed structured questionnaire was used in this study for data collection. The items of the questionnaire were divided into 5 sections namely "A", B, C, D and E. Section "A" consists of the personal information of the respondents such as Age, Numbers of Children and Religion. Section "B", consist of items on the types of breastfeeding most practiced by nursing mothers. Section "C" sought information on the opinion of nursing mothers on breastfeeding practice. Section "D" contains items on the socio-economic status of nursing mothers on breastfeeding practice. While section "E" consist of items on maternal level of education on their breastfeeding practice. The items B, C, D and E were drawn on a unit scale format with no right or wrong answers to any of the statements. The respondent indicates their degree of satisfaction on a four- point scale where:

SA - Strongly Agreed = 4

A - Agreed = 3

D – Disagreed = 2

SD - Strongly Disagreed 1 = 1

Table 3.3 Breakdown of Questionnaire Items

Research Question	Item	Focus of the Items
1		Types of breastfeeding practiced by nursing mothers with their babies.
2		Opinion of nursing mothers on the determinants of breastfeeding practiced in Kaduna State.
3		Determinants of nursing mothers socio-economic status on the breastfeeding practice
4		determinants of maternal level education on their breastfeeding practice

3.4.1 Validity of Research Instrument

The instrument used for the validity and reliability for the study was the questionnaire. The research instrument was validated by three experts in Home Economics Section, Department of Vocational and Technical Education and two experts in Measurement and Evaluation Department, all in Ahmadu Bello University Zaria. The instrument used were corrected, comments and possible suggestions was also, proffered.

3.4.2 Pilot Study

A pilot study was carried out in Alheri Maternity Hospital in Kaduna South, Kaduna which was not part of the population of the study. The researcher randomly selected 32 respondents and administered the questionnaire to them. The respondents were given two days after which the researcher went and collected them for analysis by a statistian using descriptive and inferential statistics from the Statistical Package for Social Sciences (SPSS). The idea for the pilot study was to test the ascertain the difficulty that the researcher may encounter when carrying out main study and to make sure that study was being carried out without constraint on the researcher.

3.4.3 Reliability of the Instrument

In order to ensure the reliability of the instrument, the data collected for the pilot study were subjected to a reliability testing using the Spearman Brown reliability method from the statistical package for social sciences (SPSS).

The Spearman Brown yielded a reliability coefficient of 0.953. This is in line with the preposition of Mukherijee (1980) and Ekeh (2003), who stated that the required internal consistency is the average value of correlation which must be high around 0.70-0.99.

The reliability coefficient of the instrument indicated a positive level of reliability of the instrument, which implied that, the instrument was reliably valid and internally consistent for the study.

3.5 Procedure for Data Collection

The researcher personally took the responsibility for the administration of the instrument with the help of two trained research assistants which took two weeks. A period of one week was given to each respondent to complete the questionnaire. A week later, the researcher did a follow up visit to collect the questionnaire. This was done to ensure that all questionnaires were filled and collected.

3.6 Procedure for Data Analysis

Data collected were analysed statically using descriptive statistics which were frequencies, percentages, and means. The Null hypotheses were carefully analysed by means of computer package – statistical package for the social sciences (SPSS), t-test independent test and chi –square (X^2) statistical tools were used for testing the Null hypotheses. Independent t-test was used to test significant differences in research question one while chi-square statistics was used to test the relationship in research question two and three. All test of the null hypothesis were carried out at 0.05 level of significance.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

This chapter focused on the analysis of data gathered for this research study. The research study was on the determinants of mother' breastfeeding practices in Kaduna State. Three hundred and twenty-one [321] questionnaire were administered, to nursing mothers. Data collected were analyzed into frequency distribution tables, percentiles and weighted score means. In the analysis, the responses were summarized into two categories of agree and disagree'. The mean accompanying each of the items were based on the four – point interval scale. The Null hypotheses were carefully analyzed by means of computer package – statistical package for the social sciences (SPSS), t-test independent test and chi –square (X^2) statistical tools were used for testing the Null hypotheses.

4.1 Analysis of Demographic Characteristic of the Respondents

The demographic variables of the respondents considered to be important in the study were the age, marital status, occupation, and residential area, number of children and educational qualification of the respondents.

Three hundred and twenty – one nursing mothers (respondents) from Kaduna state on antenatal care were involved in the study.

Tables 4.1.1 to 4.1.6 were used to summarize the demographic characteristics of the respondents, as shown.

Table 4.1.1: Distribution of Respondents by Age

Age of Respondents	Frequency	Percentage (%)
15 – 24	49	15. 30
25 – 34	140	43. 20
35 – 44	108	34. 00
45 – 54	024	7. 50
Total	321	100

Table 4.1.1 indicated that 15.30% (49) of the respondents were between the ages of 15 - 24 years; respondents within 25 – 34 years were 43.20% (140). 35 – 44 years were 34% (108), while the lowest age range was 45 -54, with 7.50% (24). This distribution implies that most respondent were between 25-35years. However all groups within the study area were represented in the study and were also within the age range where they could give valid opinion on the variables investigation in the study.

Table 4.1.2: Distribution of Respondents by Marital Status

Marital status	Frequency	Percentage (%)
Single	49	15. 26
Married	272	84. 74
Total	321	100

The data in Table 4.1.2 revealed that 84.74% (272) of the respondents were married mothers while 15. 26% (49) were single mothers. By this distribution, most of respondents were married mothers.

Table 4.1.3: Distribution of Respondents by Occupation

Occupation of the Respondents	Frequency	Percentage (%)
Farming	009	2.80
Civil servant	216	67.29
Trading	014	04.40
House wife	027	08.41
Student	055	17.13
Total	321	100

The data in Table 4.1.3 revealed that most of respondents were civil servants with 67.29% (216). 17.13% (55) of the respondents comprised of students, while the distribution of respondents that could be said not to have means of earning was 8.41% (27) which were the house wives. Occupation such as farming and trading were relatively distributed with 2.80% (9) and 4.40% (14) respectively.

Table 4.1.4: Distribution of Respondents by their Residential Area

Residential Area	Frequency	Percentage (%)
Rural	285	88.79
Urban	36	11.21
Total	321	100

Table 4.1.4, showed that 88.79% (285) of the respondents were from rural residential areas, while 11.21% (36) of the respondents comprised of those who were from urban area.

Table 4.1.5: Distribution of Respondents by Number of Children

Number of children	Frequency	Percentage (%)
1 – 2	231	72
3 – 4	46	14
5 – 6	44	14
Total	321	100

The Table 4.1.5 indicated that 72.00% (231) of the respondents have between 1 and 2 children each. 14.00 %(46) of the respondents said they have between 3 - 4 children. While respondents who had more than 4 children were 14% (44).

Table 4.1.6: Distribution of Respondents by Level of Formal Education

Level of Formal Education	Frequency	Percentage (%)
Primary / Non – Formal education	16	5.00
Secondary	21	7.00
OND/NCE	118	37.00
HND/Degree	107	33.00
Masters/Ph.D	59	18.00
Total	321	100

The data in Table 4.1.6 indicated that 37% (118) of the respondents had OND/NCE, Education, 33% (107) of the respondents had HND/Degree Education. 18% (59) of the respondents indicated that they had masters/ Ph.D as their highest qualification; 7% (21) of the respondents had Secondary Education. While only 5% (16) had primary school certificate. This means that all the literacy levels are represented in the study, with this distribution the respondents could be expected to understand and give valid response to the research study.

4.2 ANSWERS TO RESEARCH OBJECTIVES AND RESEARCH QUESTIONS

The basic objective of the study was to examine the determinants of mother' breastfeeding practices in Kaduna State. In providing required answer to the questions, the items for each respective variable were scored in means, percentiles and frequencies. The means were computed on a four point scale. The total score for each of the variables were summed up and divided by the number. The resulting mean indicates whether the respondents 'agreed' or 'disagreed' with the suggested notion of the variables.

Research Question 1: what are the types of breastfeeding practices by nursing mothers with their babies in Kaduna state?

In answering this research question, section B of the questionnaire was used

Table 4.2.1: Types of Breastfeeding Practices by Respondents with their Babies

Types of Breastfeeding	Frequency	Percentage	Mean	STD
Mixed feeding	120	37.38	1.4953	1.93830
Exclusive breastfeeding	201	62.62	2.5047	1.93830
Total	321	100		

Table 4.2.1 shows that 201(62.62%) of the respondents were practicing exclusive breast feeding with their babies, while 120 (37.38) nursing mothers indicated that they practiced mixed feeding with their babes.

Research Question 2: what are the nursing mothers' opinion on the determinants of exclusive breastfeeding and mixed feeding practices on the mother and child in Kaduna state?

Table 4.2.2: The Determinants of Exclusive Breastfeeding and Mixed Feeding Practiced by Nursing Mothers in Kaduna State.

SN	Determinants of Exclusive Breastfeeding and Mixed Feeding Practices	Agree			Disagree			Decision
		Freq	Mean	%	Freq	Mean	%	Remark
1	Exclusive breastfeeding promotes better intelligence and greater academic achievement in children.	293	3.09	91.28	28	0.13	8.72	Agreed
2	Exclusive breastfeeding increase attachment of the baby to the mother.	282	2.97	87.85	39	0.1	12.15	Agreed
3	Exclusive breastfeeding promotes the health of both the mother and the child.	317	3.34	98.75	4	0.01	1.25	Agreed
4	Exclusive breastfeeding serves as a source of family planning and natural contraceptive.	285	3.02	88.78	36	0.17	11.21	Agreed
5	Exclusively breastfed babies look healthy.	314	3.32	97.82	7	0.02	2.18	Agreed
6	Exclusive Breastfeeding boost the immune system of the children.	318	3.39	99.06	3	0.01	0.93	Agreed
7	Mixed feeding increases the child's chances of infection.	306	3.27	95.33	15	0.08	4.67	Agreed
8	Mixed Feeding Satisfies a baby more than exclusive breastfeeding.	282	2.96	87.85	39	0.23	12.15	Agreed
9	Mixed feeding provides alternative feeding while the mother is working.	321	3.40	100	0	0.00	0.00	Agreed
10	Mixed feeding slowdown digestion, makes children uncomfortable.	317	3.37	98.75	4	0.02	1.25	Agreed
11	Mixed feeding promotes time management among breastfeeding mothers.	307	3.83	95.64	14	0.08	4.36	Agreed
	Average mean score		3.27			0.08		Agreed

Table 4.2.2: indicates the determinants of Exclusive Breastfeeding and Mixed Feeding Practiced by Nursing Mothers in Kaduna State.

Table 4.2.2 revealed that, 100% (321) of nursing mothers agreed that mixed feeding provides alternatives while the mother is at place of work. 99.06% (318) of nursing mothers acknowledge that exclusive breastfeeding boost the immune system of the children. However in item 3 and 10, 98.75% (314) of nursing mother opined that, exclusive breast feeding promotes the health of both mother and child, while mixed feeding slows down digestion and makes children uncomfortable, respectively for each item.

97.82 % (314) of nursing mothers agreed that exclusively breastfed babies look healthier. However, 95.64% (307) of nursing mothers revealed that mixed feeding promote time management. 95.33% (306) of nursing mothers indicated that mixed feeding increases the child's chances of infection. In line with this finding, 293 (91.28%) of nursing mothers accepted that exclusive breastfeeding promotes better intelligence and greater academic achievement in children. 88.78% (285) of nursing mothers agreed that exclusive breastfeeding serves as a source of family planning and natural contraceptive. While 87.85% (282) of nursing mothers concurred that mixed feeding satisfies a baby more than exclusive breastfeeding. 87.85% (282) of nursing mothers opined that exclusive breastfeeding increases attachment of the baby to the mother. The average mean of 3.27 as agreed by the nursing mothers indicated that there was a positive determinants of exclusive breastfeeding and mixed feeding practiced by nursing mothers in Kaduna State.

Research Question 3: what are the determinants of socio-economic status of nursing mothers on exclusive breastfeeding and mixed feeding practices in Kaduna state

Table 4.2.3: Determinants of Socio-Economic Status of Nursing Mothers on Exclusive Breastfeeding and Mixed Feeding Practices in Kaduna State.

S/N	Determinants of socio economic status of nursing mothers on exclusive breastfeeding and mixed feeding practices	Agree			Disagree			Total		Decision
		Freq	Mean	%	Freq	Mean	%	Freq	%	Dec
1.	Higher socio economic status women are more likely to have supportive work place/home environment for mixed feeding practices.	266	2.86	82.87	55	0.30	17.1	321	100	A
2.	Women of lower socio economic status are less likely to breastfeed their infants using mixed feeding practices.	304	3.26	94.71	17	0.11	5.29	321	100	A
3.	Maternal employment negatively influences the initiation of exclusive breastfeeding among nursing mother.	277	2.90	70.72	44	0.23	29.28	321	100	A
4.	Maternal and paternal income affects the influence of exclusive and mixed feeding practices among nursing mothers.	307	2.67	95.64	14	0.08	4.36	321	100	A
5.	Household income predicts the initiation of exclusive breastfeeding among nursing mothers.	298	3.16	92.83	23	0.19	7.17	321	100	A
6.	Maternal level of education is significant in predicting mixed feeding initiation.	286	3.06	89.10	35	0.18	10.90	321	100	A
7.	Knowledge on the benefits of breastfeeding predicts exclusive breastfeeding among nursing mothers	321	3.41	100	0.00	0.00	0.00	321	100	A
	Average mean score		3.05			0.16			Agreed	

Table 4.2.3: indicates the Influence of Socio-Economic Status of Nursing Mothers on Exclusive Breastfeeding and Mixed Feeding Practices in Kaduna State.

As shown on Table 4.2.3, 100% (321) of the respondents opined that knowledge on the benefits of breastfeeding predicts exclusive breastfeeding among nursing mothers. This was closely followed by 95.64% (307) of the respondents who maintained that maternal and paternal income affects the influence of exclusive and mixed feeding practices .This was followed by 94.71% (304) of nursing mothers who asserted that women of lower socio-economic status are less likely to breastfeed their infants, using mixed feeding practices. 92.83% (298), of the respondents commented that household income predicts the initiation of exclusive breastfeeding among nursing mothers.

89.10 % (286) of the respondents remarked that maternal level of education is significant in predicting mixed feeding initiation. Whereas 82.37 % (266) of the respondents agreed that women of higher socio economic status are more likely to have supportive work place/home environment for mixed feeding practices. Similarly 70.72 % (277) of the respondents concluded that, maternal employments negatively determine the initiation of exclusive breastfeeding among nursing mothers, in Kaduna State. Therefore, the averages mean score for Table 4.2.3, showed 3.05 as agreed and 0.16 as disagreed, hence indicating that there was an agreed influence of socio-economic status of nursing mothers on exclusive breastfeeding and mixed feeding practices in Kaduna State.

Research Question 4: To What extent does Maternal Level of Education Determine their Breastfeeding Practices in Kaduna State?

Table 4.2.4: Determinant of Maternal Level of Education on their Breastfeeding Practices.

	Determinant of maternal level of education on their breastfeeding practices	Agree			Disagree			Total		Decision
		Freq	Mean	%	Freq	Mean	%	Freq	%	Remark
1	Education has influence on the type of breastfeeding practice by mothers	240	3.55	75.8	81	0.41	24.5	321	100	Agreed
2	Educated mother breastfeed babies better than uneducated mothers because of their level of knowledge	250	2.60	77.9	71	0.38	22.11	321	100	Agreed
3	Mothers with any level of education are more likely to give baby breast milk than the illiterate mothers.	254	2.67	79.13	67	1.25	20.9	321	100	Agreed
4	Mothers with high level of education adapt to change in the breastfeeding pattern more easily	273	2.86	85.05	48	0.24	14.95	321	100	Agreed
5	Mothers with high level of education are more hygienic than mothers without education	289	3.02	90.03	32	0.16	9.7	321	100	Agreed
6	Uneducated mothers' breastfeed babies regularly than the educated mothers, since they are always with their babies.	282	2.91	87.85	39	0.12	12.15	321	100	Agreed
	Average mean score		3.00			0.43				Agreed

The responses of the respondents as observed in Table 4.2.4 indicated that, 90.03% (289) of nursing mothers with high level of education are more hygienic than mothers without education. 87.85% (282), of the respondents agreed that uneducated

mothers breastfeed their babies regularly than the educated mothers, since they are always with their babies. Thus, 85.05% (273) of the respondent agreed that mothers with high level of education adopt to change in the breastfeeding pattern more easily. Following this, 79.13 % (254), of the respondents opined that mothers with any level of education are more likely to give baby breast milk than the illiterate mothers. It is not surprising therefore that 77.9% (250) of the respondents agreed that educated nursing mother's breastfed their babies better than uneducated nursing mothers because of their level of knowledge on breastfeeding. Most 75.8% (240) of nursing mother involve in the study agreed that education has influence on the type of breastfeeding practices by mothers. Hence the observation from the respondents' data in Table 4.2.3 showed that, maternal level of education influence nursing mother breastfeeding practices, with the average mean of 3.00 agreed and 0.04 disagreed.

4.3 Testing of Null Hypotheses

A number of hypotheses were raised in this study and was given a statistical backing to the solution proffered for the research questions raised in the study. The statistical method used to test the Null hypotheses 1 was t-test; while chi square (x^2) statistical method was used to test Null hypotheses 2 and 3; all three Null hypotheses were tested at 0.05 level of significance in ensuring analyses.

Therefore, where the t – calculated or x^2 calculated values was greater than t - critical or x^2 critical value, the Null hypotheses was rejected in favour of alternative hypothesis implying, there is a significant difference or relationship between the variables. Where the t – calculated or x^2 calculated values was less than t – critical or the

x^2 critical values, then Null hypotheses was retained that is, significant relationship or difference does not exist among variables. SPSS was used for computation.

Null Hypotheses 1

There is no significant difference in the nursing mother's opinion on the determinant of Exclusive breastfeeding and mixed feeding practices on mother and child in Kaduna State.

Table 4.3.1a: Two sample t -test of difference between mothers opinion on the determinants of exclusive breastfeeding and mixed feeding practices on the mother.

Variables	Mean	SD	SE	DF	t – value	P-val	t - Critical
Exclusive breastfeeding	3.948	0.435	0.397	320	4.972	0.001	1.96
Mixed feeding	2.521	0.237	0.275				

Note: SD = Standard Deviation

DF = Degree Of Freedom

P = Observed Level Of Significance

SE = Standard Error

t = Observed = t = Value

The result in Table 4.3.1a revealed a significant difference between the opinions of mothers on the determinants of exclusive breastfeeding and mixed feeding practices on the mother. The observed t-value 4.972 is higher than the critical value (1.96) at the observed level of significance 0.001 (P<0.05). This means that, the Null hypothesis cannot be accepted. Hence the null hypothesis is rejected.

Table 4.3.1b: Two sample t -test of difference between mothers opinion on the determinants of exclusive breastfeeding and mixed feeding practices on the child.

Variables	Mean	SD	SE	DF	t – value	P-val	t - Critical
Exclusive breastfeeding	2.860	0.524	0.786	320	3.281	0.002	1.96
Mixed feeding	2.210	0.362	0.462				

The test in Table 4.3.1b showed that exclusive breastfeeding was significantly different from mixed feeding practices on the child. The observed t-value for the test was 3.281 compared to 1.96 which stands for the critical value of t at 0.05. The observed t-value 3.281 is higher than the critical value 1.96, while the observed level of significance is 0.002 (P<0.05). This means that the null hypothesis could not be retained on these bases; hence there is a significant difference between exclusive breastfeeding and mixed feeding practices on the child.

The chi-square (x^2) statistical method was used to test Null hypothesis 4 and 5, at 0.05 level of significance.

Null Hypothesis 2:

There is no significance relationship between mothers' socio-economic status and the breastfeeding practice in Kaduna state.

Table 4.3.2: chi –square analysis of relationship between mother's socio –economic status and their breastfeeding practices.

S/N	Sec D	A	D	X^2 Cal	DF	Level of Sign	X^2 Crit	DEC
1	1	266 (294.14)	55 (26.86)					
2	2	304 (294.14)	17 (26.86)					
3	3	277 (294.14)	44 (26.86)					
4	4	307 (294.14)	14 (26.86)	58.07	6	0.05	12.592	Ho rejected
5	5	296 (294.14)	23 (26.86)					
6	6	286 (294.14)	35 (26.86)					
7	7	321 (294.14)	0 (26.86)					

X^2 Cal= Chi –Square Calculated; DF = Degree of Freedom; Sig –significance

X^2 Crit = Critical Square Critical; P val = Probability value.

Since the calculated x^2 value of (58.07) is greater than critical x^2 value of (12.592) at 0.05 of significance , the null hypothesis is hence, rejected in favour of the alternative.

The result implies that there is a significant relationship between mother's socio-economic status and their breastfeeding practices.

Null Hypothesis 3:

There is no significance relationship between nursing mother's level of education and the determinant of breastfeeding practiced on the child.

Table 4.3.3: chi- square analysis of relationship between nursing mothers' level of education and the determinant of breastfeeding practiced on the child.

S/N	Sec D	A	D	X^2 Cal	DF	Level of Sign	X^2 Crit	DEC
1	1	240 (264.67)	81 (26.86)					
2	2	250 (264.67)	71 (26.86)					
3	3	251 (264.67)	67 (26.86)					
4	4	273 (264.67)	48 (26.86)	40.87	5	0.05	11.071	HO rejected
5	5	289 (264.67)	32 (26.86)					
6	6	289 (264.67)	39(26.86)					

x^2 Cal = Chi – Square Calculated; DF = Degree of Freedom; Sig = significance x^2 Crit = Chi - Square Critical; P val = Probability Value.

Result in Table 4.3.3, revealed that calculated x^2 value of (40.87) is greater than critical x^2 value of (11.071) at 0.05 levels of significance. Thus the null hypothesis is rejected in favour of the alternative. This indicated that there is a significant relationship

between nursing mother's level of education and the determinant of breastfeeding practiced on the child.

4.4 Discussion of Findings

The main objective of the study was to investigate determinants of mother' breastfeeding practices in Kaduna State. In order to achieve this major objective, four research objectives were stated and analyzed using frequencies, mean, and percentages to show the respondents responses on the related items. From the result, of the analyzed data collected using questionnaires, the findings were revealed thus:

Based on specific objective one, which was to identify types of breastfeeding practiced by nursing mothers with their babies in Kaduna State, findings reveled that, there are two major types of breastfeeding practiced by nursing mothers in Kaduna state. This is evident in Table 4.2.1; where exclusive breastfeeding has the highest mean response of 2.50, as compared to mixed feeding with mean of 1.50. Therefore it can be said that nursing mothers were familiar and knowledgeable to the use of exclusive breastfeeding practices in nursing their children this is in line with, Hassan (1996) who stated that breastfeeding is the only completely safe protective and nutritious way to give a child the best start in life.

The study also revealed nursing mothers opinion on the determinant of exclusive breastfeeding and mixed feeding practices in Kaduna State. Details of this research question two, objective two, was shown in Table 4.2.2. The finding agreed with the writing of the Odimegwu (2002), who stated that when a baby receives the first milk (colostrum), which gives protection against infection, it promotes the health of both

mother and child. This is revealed in item 3 with mean of 3.34, and item 5 with mean of 3.32. Brown (2006) further stated that malnourished mother can maintain growth of infants up to four and six months of age by exclusive breastfeeding, Browns' opinion was also revealed in item 6 with mean of 3.39.

On the third objectives (research question three),which examined the determinant of socio-economic status of nursing mothers on exclusive breastfeeding and mixed feeding practiced in Kaduna State. Findings revealed that the socio economic status of nursing mothers on exclusive breastfeeding and mixed feeding methods adversely affect nursing mothers breastfeeding practices. This was revealed in Table 4.2.3, as the maternal level of education is significant in predicting mixed feeding practices of nursing mothers. Winick and Derek (2001) concurred that, most educated young mothers dislike breastfeeding and some simply have no time because of their business or professional engagement. This is adequately revealed in item 3 with mean of 2.90, item 1 with mean of 2.86 and item 6 with mean of 3.06. According to Winick and Derek (2001), nursing mothers feel that, breastfeeding belong to the rural uneducated women whereas others feel is un-lady like to be seen breastfeeding their babies, while there are different brands of baby food in stores. This is in line with item 2 with means of 3.26, item 4 with mean of 2.67 and item 5 with mean of 3.16. However, Kaine (2002) revealed that despite this entire attitude, there are women who are educated and uneducated, urban and rural who knows the benefits of breastfeeding. As revealed in item 7 with mean of 3.41.

Research finding in research question four, objective four identified the opinion on the determinant of maternal level of education on their breastfeeding practices, from Table 4.2.4; education was indeed a determinant on the type of breastfeeding practices by

nursing mothers. Wardatul, (2001) observed that education is an important factor influencing mothers to breastfeed their infants. In support of this view, Luome (2002) noted that maternal education makes nursing mothers conscious about the wellbeing of herself, child and family as shown, in Table 4.2.4.

The test of all the Null hypotheses postulated in the research study showed significant difference/ relationship between exclusive breastfeeding and mixed feeding practices on the mother and child in Kaduna State.

In Table 4.2.1 Exclusive breastfeeding was seen as the most type of breastfeeding practiced by nursing mothers. It was also shown by the outcome of the research that only few of the respondents practiced mixed feeding methods for their children this is to say, that where exclusive breastfeeding is absent, mixed feeding is practiced on the child, by the nursing mothers, hence significant difference existed between exclusive breastfeeding and mixed feeding practices. This observation is in line with Bello, (2001) who stated that breast milk is the best food for babies because it contains all the nutrient the baby requires. Breast milk is produced by mammals' gland of the breast in a female adult. The nutrients found in the breast milk are from food the mothers eat. If the mother's diet is adequate, the milk produced will be rich in nutrients and more milk will be produced always. Breastfeeding is one of the oldest ways of feeding infants it is the cheapest and easiest way of feeding babies and obtains essential nutrients for growth and body metabolism. This findings is in line with, IBFAN (2004) who opined that breastfeeding is carried out in two ways which include exclusive breastfeeding where the child is fed with breast milk for four to six months with no other food or drink, while mixed feeding is the process where other types of baby food are given to the child alongside breast milk.

Null hypothesis one stated that there is no significant difference in the nursing mothers' opinion on the determinant of exclusive breastfeeding and mixed feeding practices on the mother and child. The result in Table 4.3.1 postulated that there is a significant difference between the opinions of mothers on the determinant of exclusive breastfeeding and mixed feeding practices on the mother. Although mixed feeding comes handy when the mother is infected with a terminal disease or when the mother, due to death or accidents, the child could have a replacement; but breastfeeding remains a unique process this is in agreement with Lawrence (2005) who confirmed that breastfeeding provides both a food and a biologically based interaction between two individuals, both achieving a healthy normal physiological milieu. As a result, lactation/breastfeeding also is associated with less maternal risk of breast and ovarian cancers. Lawrence (2005) further remarked that EBF also contributed to cost-effective pregnancy spacing. If a mother is breastfeeding a baby frequently by day and night, she is less likely to become pregnant again during this period. Finally he stated that breastfeeding helps to stop maternal bleeding after delivery and helps to develop the emotional bond between mother and child. Hence, the use of any commercial infant feeding substitutes increases the drain on family and population resources. While commercial infant formula manufacturers may attempt to replicate the nutritional components of human milk, there are many factors in human milk that cannot be reproduced and others that cannot be successfully incorporated into a commercially viable breast milk substitute based on non-human milk.

The mean score in Table 4.3.1 for exclusive breastfeeding was 2.860 while for mixed feeding was 2.210. This indicated that the respondents were of the opinion that exclusive breastfeeding practices were better off in nutrients compared to mixed feeding practices on the child. The null hypothesis was therefore rejected since; mix feeding exposes the children to chronic diseases such as asthma, diarrhea and other infectious disease. While exclusive breastfeeding was said to promote better intelligence, promotes the health of both the mother and child, and prevent chances of infection on the child. This is in agreement with (Azubuike and Nkanginieme, 1999). This observation is in line with Bello, (2001) who stated that breast milk is the best food for babies because it contains all the nutrient the baby requires. Breast milk is produced by mammals' gland of the breast in a female adult. The nutrients found in the breast milk are from food the mothers eat. If the mother's diet is adequate, the milk produced will be rich in nutrients and more milk will be produced always. Breastfeeding is one of the oldest ways of feeding infants it is the cheapest and easiest way of feeding babies and obtains essential nutrients for growth and body metabolism. Supporting these views, Williams (2003) concurred that exclusive breastfeeding is the transfer of immune-globin from the mother to the child, which actively protects the child against allergy and stimulates the development of the infants own immune system.

Also in response to test of null hypothesis two, which stated that, there is no significant relationship between mothers' socio-economic status and the breastfeeding practices. Findings revealed overwhelming relationship in Table 4.2.3 and Table 4.3.2 which indicated that, there is a significant relationship between mothers' socio -economic status and their breastfeeding practices. This was certainly factual considering the higher

and lower socio –economic status of nursing mothers on the methods of breastfeeding their child. This is true because external factors determine breastfeeding behavior and leads to lactation failure. These factors include inadequate knowledge about infant nutrition. Socio – economic factors like income, occupation, and social class may determine nursing mother breastfeeding practices thus confirming the assertion of (Wardatul, 2001).

Hypothesis three postulated that there is no significant relationship between nursing mothers' level of education and the determinant of breastfeeding practiced. The outcome of the last null hypothesis also indicated a significant relationship between nursing mothers' level of education and the determinant of breastfeeding practiced on the child. This was true because from Table 4.2.4 and 4.3.3; maternal level of education presented so many advantages of breastfeeding methods on the child. In this present age it is much more convenient for mothers with high level of education to breastfeed in their child, hygienically than mothers' without education. According to Biecego and Boerma (1997), lower level of maternal education significantly elevates the risk of post pre natal motility. This was why an educated mothers' have more advantage to health education programs through her employment status, than an uneducated mother unless education programmes are made available for all mothers.

4.5 Summary of the Major Findings

1. Exclusive breastfeeding method was mostly practiced by nursing mothers, compared to mixed feeding practices.

2. Exclusive breastfeeding practices created a special bond between mother and child while mixed feeding on the other hand is expensive for the mother and poses hygiene challenges for the mother in ensuring proper preparation with clean water and utensils.
3. Exclusive breastfeeding helped to lower the risk of chronic conditions such as obesity in the child, while mixed feeding practice increases the chances of the child getting diarrhea and other infectious diseases.
4. Educated young mothers dislike exclusive breastfeeding as they simply did not have enough time because of their businesses or professional engagement.
5. Nursing mothers who were educated adopted hygiene process in breastfeeding their babies, while uneducated mothers, rarely adapted to positive changes in the breastfeeding pattern more easily.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter present, summary, conclusion and recommendations based on the result obtained from the study.

5.1 Summary

5.2 Conclusion

5.3 Recommendations

5.1 Summary

The main purpose of the study was to investigate the determinants of mother' breastfeeding practices in Kaduna State. Four research questions were raised in the study and answers were provided, while three null hypotheses were postulated and tested with relevant inferential statistics.

Relevant related literature was reviewed. The study was conducted in eight Local Government Area in Kaduna State, where nursing mothers attended antenatal clinics. The researcher used survey research design in conducting the study.

Out of 3205, 321 sample size was selected using proportionate random sampling procedure, instruments for data collection were self-structured questionnaire. A four point scale format with no right or wrong answers to any of the statement were used. Data collected in chapter four were analysed using frequency, percentage and means, for the demographic variables, independent t –test statistics was used in testing null

hypothesis 1 while chi – square analysis of significant relationship was used to test null hypothesis 2 and 3. Three null hypotheses raised in the study were tested at 0.05 level of significance.

5.2 Conclusion

In view of the major findings, it can be concluded that, there were indeed two major common methods of breastfeeding practices by the mother with child. However, exclusive breastfeeding was found to be the most prominent and acceptable method of breastfeeding as compare to mixed feeding practices. Mothers who were exclusively breastfeeding their children, were less likely to become pregnant again during this period. Exclusive breastfeeding helps to stop maternal bleeding after delivery and helps to develop the emotional bond between mother and child. Exclusive breastfeeding method was discovered to promote the health of both mother and child; and to boost the immune system of the child. The study also revealed that the knowledge on the benefits of exclusive breastfeeding among nursing mothers influence mothers attitude on exclusive breastfeeding and mixed feeding practices.

5.3 Recommendations

The following recommendations were made:

1. Nursing mothers attending antenatal and child care centres should be educated by nurses, midwives and other health care personnel on the need for practicing exclusive breastfeeding as it contains complex nutritional

fluid and hormones for the child, which many cannot be included in mixed feeding practices.

2. Nursing mothers should be encouraged by childcare centres on the special bond between mothers who exclusively breastfeed their child and the risk of chronic conditions and infections associated with mixed feeding.
3. Support should be provided by the healthcare personnel, nurses, midwives on the benefits of exclusive breastfeeding at place of work.
4. Family life educators should often organize frequent seminars and workshops for educated mothers to create awareness and practices of exclusive breastfeeding.
5. Home Economics educators should work in support and promotion of healthy breastfeeding practices by organizing seminars, print out handbills in a small community and health centres.

Based on the findings and conclusions of this research, a similar research on the following should be concluded;

1. The effective utilization of exclusive breastfeeding in raising children
2. The implication of mixed feeding practices on mother and child.
3. Socio –economic effects of breastfeeding methods on the mother and child
4. Comparative study on mixed feeding and exclusive breastfeeding on the child and mother.

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Appendix I

LETTER OF INTRODUCTION

Dept of Vocational and Technical
Education,
Ahmadu Bello University,
Samaru- Zaria,
09th August, 2011

Dear Respondents,

Request to Fill Questionnaire

I am a postgraduate student of Home Economics section of Ahmadu Bello University, Zaria presently carrying out a research on the "Influence of Breastfeeding methods on the Mother and Child in Kaduna State." Therefore, attached questionnaire is to solicit your assistance and cooperation in providing the required information by ticking the items. It is purely an academic exercise for the award of Masters Degree in Home Economics Education. The information provided shall be treated strictly for that purpose.

Thanks for your cooperation

Yours faithfully,

Izumah Gloria O.

(M.ed/Educ/08-09/ 00198)

Appendix II

SECTION A:

BIO DATA

Instruction: Please tick the appropriate box as it applies to you

1. Age of respondent (in years);
   - (a) 15 – 20 [ ]
   - (b) 21 – 25 [ ]
   - (c) 26 – 30 [ ]
   - (d) 31 – 35 [ ]
   - (d) 35 – 40 [ ]

2. Marital status
   - (a) Single [ ]
   - (b) Married [ ]

3. Occupation
   - (a) Farming [ ]
   - (b) Civil Servant [ ]
   - (c) Trading [ ]
   - (d) House wife [ ]
   - (e) Student [ ]

4. Residential area
   - (a) Rural [ ]
   - (b) Urban [ ]

5. Number of children
   - (a) 1 – 2 [ ]
   - (b) 3 – 4 [ ]
   - (d) 5 – 6 [ ]

6. Level of mothers education
   - a) Primary/non-formal education [ ]
   - b) Secondary [ ]
   - c) OND/NCE [ ]
   - d) HND/Degree [ ]
   - e) Master/Ph.D [ ]

Please respond to section B, C, D and E by using the following format. There is no right or wrong answers.

Strongly agreed = 4, [ ]
Agreed = 3, [ ]
Disagree = 2, [ ]
Strongly Disagree = 1 [ ]

Section B: We have two types of Breastfeeding methods mostly Practiced by nursing mothers in Kaduna State; kindly tick ( ) one that is applicable to you

1. Mixed breastfeeding [ ]
2. Exclusive breastfeeding [ ]

Section C. Influence of exclusive Breastfeeding and mixed breastfeeding Practices On the mother;

S/N	Items	SA	A	D	SD
1.	Exclusive breastfeeding increase closeness of the baby to the mother.				
2.	Exclusive breastfeeding serves as a source of family planning and natural contraceptive				
3.	Mixed breastfeeding provides alternative feeding while the mother is working.				
4.	Mixed breastfeeding helps the nursing mothers to management time.				

Section C. Influence of exclusive Breastfeeding and mixed breastfeeding Practices On the child

S/N	Items	SA	A	D	SD
1.	Exclusive breastfeeding promotes better intelligence and greater academic achievement in children.				
2.	Exclusive breastfeeding promotes the health of both the mother and the child.				
3.	Exclusive breastfeeding serves as a source of family planning and natural contraceptive				
4.	Exclusive breastfeeding boost the immune system of the children				
5.	Mixed breastfeeding increases the Childs 'chances of infection.				
6.	Mixed breastfeeding satisfies a baby more than exclusive breastfeeding.				
7	Mixed breastfeeding provides alternative feeding while the mother is working.				
8	Mixed breastfeeding slows down digestion and makes children uncomfortable.				

Section D: Influence of Socio-economic status of Nursing Mothers on exclusive Breastfeeding and Mix feeding Practices

S/N	ITEMS	SA	A	D	SD
1.	Women with high socio economic status have more supportive work place/home environment for mix feeding practices				
2.	Women of lower socio economic status find it difficult to breastfeed their infant, using mixed breastfeeding practices.				
3.	Maternal employment negatively affects the choice of exclusive breastfeeding among nursing mother				
4.	Maternal income affect the influence of exclusive and mixed breastfeeding practices among nursing mother				
5.	Household income determines the choice of exclusive breastfeeding and mixed breastfeeding among nursing mothers.				
6.	Maternal level of education is important in determining mixed breastfeeding practices.				
7.	Knowledge of the benefits on breast feeding determines exclusive breastfeeding among nursing mothers.				

Section E: Influence of Maternal level of Education on their Breastfeeding Practice

S/N	ITEMS	SA	A	D	SD
1.	Education has influence on the type of breastfeeding practiced by mothers				
2.	Educated mother breastfeed babies better than uneducated mothers because of their level of knowledge.				
3.	Mothers with any level of education are more likely to give baby breastfeed earlier than the illiterate mothers.				
4.	Mothers with high level of education adapt to changes in the breastfeeding pattern more easily				
5.	Mothers with high level of education are more hygienic than mothers without education.				
6	Uneducated mothers' breastfeed babies regularly than the educated mothers since they are always with their babies.				

Appendix III
Details of the Population for the Study

S/No	Type of Hospital	Name of Hospital	Population	Sample
1	**Government**	Ahmadu Bello University Teaching Hospital, Shika, Zaria	200	20
2		General Comprehensive Children Health Centre Sabo Gari, Zaria	150	15
3		Institute of Children Health, Banzazzau, Zaria	100	10
4		Government health hospital GRA, Zaria	110	11
5		Major Ibrahim Abdullahi Specialist Hospital Sabo-Gari, Zaria	120	12
6		Gamba Sawaba Specialist Hospital Kofan Gayan, Zaria	100	10
7		Health Centre Clinic, Palladan, Zaria	110	11
8		Family Health Care Clinic, Samaru, Zaria	100	10
9		Health Centre Clinic, Tudun Wada, Zaria	70	7
10		Health Centre Clinic, Hanwa, Zaria	120	12
11		Primary Health Care Clinic, Bassawa, Zaria	70	7
12		Primary Health Care, Kwamba, Zaria	70	7
	Private			
1		Mayfair Hospitals, Sabo Gari, Zaria	140	14
2		Jama'a Hospital, Samaru, Zaria	120	12
3		Limi Hospital and Maternity, Hanwa, Zaria	150	15
4		Muslim Specialist Hospitals and Maternity, Gwargwaje Zaria	100	10
5		Nana Hospital and Maternity, Sabo Gari, Zaria	70	7
6		Salama Infirmity Hospital, Kwangila, Zaria	100	10
7		Savannah Poly Hospital, Samaru, Zaria	75	8
8		St Lukes Anglican Hospital, Wusasa, Zaria	180	18
9		Zaria Clinic, Tudun Wada, Zaria	120	12
10		Mummy Nursing and Maternity Clinic Kwangila, Zaria	75	8
11		Aloanye Maternity Clinic, Gaskiya, Zaria	70	7
12		Mamara Clinic Sabo, Zaria	100	10
13		Pal Maternity and Child Care, PZ, Zaria	120	12
14		Sakadadi Clinic, Zaria	100	10
15		Bawa Memorial Clinic, Zaria	130	13
16		Muchia Clinic, Zaria	80	8
17		Lydia Clinic Palladan, Zaria	75	8
18		Bassawa Health Care Centre, Zaria	80	8
		Total 30	**3,205**	**321**

Source: Nursing Mothers Statistical Units, Kaduna State Ministry of Health Secretariat, Zaria (2011).