

**BIRTH ORDER AND EXCLUSIVE BREASTFEEDING PRACTICES AMONG
MOTHERS WITH TWO OR MORE CHILDREN ATTENDING A
SECONDARY HEALTH CARE FACILITY IN IBADAN, OYO STATE**

BY

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CERTIFICATION

I certify that this work was carried out by Mr Ayinde Abayomi Oluwasegun in the Department of Epidemiology, Medical Statistics and Environmental Health, University of Ibadan.



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DEDICATION

This thesis is dedicated to all pregnant women and nursing mothers in the world, especially those who despite their tight schedule at the time this study was done still contributed to the body of knowledge compiled every moment of research to make lives better for generations, both present and to come.

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I cannot say I have achieved all that my hand has sought to do in life with the absence of the one who is my breath and the maker of my totality. With this I give my deepest sense of gratitude to the Sovereign God, the Father of all fathers, who fills all in all and builds a sure future; for always being there as my unfailing strength and my pillar of support.

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ABSTRACT

Background: The promotion and support of breast-feeding is a global priority. Breastfeeding is recommended by multiple health agencies as the preferred method of infant feeding for at least six months because of its numerous benefits, both immediate and long term, for both mothers and babies. It has also been suggested that the duration a woman breastfeeds her first born is an important predictor of whether or not she will breastfeed a later-born child. This study aimed to determine the association between birth order and exclusive breastfeeding practices in families with two or more children.

Method: A cross sectional design was used for this study. A total of 288 mothers with two or more children attending Adeoyo Maternity Hospital, Yemetu were recruited using a systematic random sampling and a structured questionnaire was used to collect data on sociodemographic characteristics, birth history, knowledge and practice of breastfeeding. Chi-square test was used for bivariate analyses to test the significance of the association between categorical variables and the practice of exclusive breastfeeding. Logistic regression analysis was performed to identify independent predictors of exclusive breastfeeding. Level of significance was at 5%.

Results: The mean age of mothers was 30.4 years (SD 4.4 years) while the mean age of the children was 56.0 months (SD 41.1 months). Exclusive breastfeeding was higher among the second and third children compared to the first, fourth and fifth children. However on logistic regression the differences were not significant. Mothers with three children were about three times more likely to have exclusively breastfed their children compared to mothers with four/five children. (OR= 2.168, 95%CI= 1.307-3.596). Mothers from other ethnic group were significantly less likely to breastfeed exclusively than those who were Yoruba (OR= 0.515, 95%CI= 0.254-1.046)

Conclusion: The study shows that the factors influencing the practice of exclusive breastfeeding differ among mothers by birth order and parity. Efforts must be intensified to reiterate the benefits of EBF and address the identified hindrances irrespective of parity and birth order, via health education of the broader community to enlist family support for breastfeeding mothers. Strategies should also be put in place that would ensure the consistent practice of exclusive breastfeeding especially among mothers who have many children.

Key words: Exclusive breastfeeding, Parity, Birth order

Word count: 366

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CHAPTER ONE

1.0

INTRODUCTION

Breastfeeding is recommended by multiple health agencies as the preferred method of infant feeding for at least 1 year because of its numerous benefits, both immediate and long term, for both mothers and babies. In 2002, 71% of mothers in the United States initiated breastfeeding, close to the Healthy People 2010 goal of 75%. To maintain or even increase this proportion, it is necessary to determine the multiple factors that influence a woman's decision to breastfeed. Given that many women have more than one child, understanding the infant feeding experiences of individual mothers with multiple children provides an important public health perspective on infant nutrition. (Satcher DS., 2001)

The promotion and support of breast-feeding is a global priority [American Academy of Pediatrics 1997 and Feachem et al., 1984]. A vast scientific literature demonstrates substantial health, social and economic benefits associated with appropriate breast-feeding, including lower infant morbidity and mortality from diarrhea and other infectious diseases [Popkin et al., 1990, Ruiz-palacios et al., 1990 and Newburg et al., 1998]. In the longer term, insulin dependent diabetes mellitus, inflammatory bowel diseases and childhood lymphomas are less common in children who were breast-fed [Wilson et al 1998]. Breast-feeding promotes maternal-infant bonding and attachment and provides the child with a sense of security [Woolridge et al., 1993]. Breast milk provides perfect nutrition because it optimizes growth, development and health in general. It provides all nutrients required for infants in the first six months of life [Woolridge et al., 1993].

Several studies have considered the impact of maternal demographics, employment, the health care system, maternal-child health medical issues, and cultural beliefs on breastfeeding initiation. (Scott J A, 1997) However, very few articles have focused on the relationship between birth order and breastfeeding. Two older studies, one small and the other limited to a single region of the United States, have shown that women tend to repeat the feeding decision they made with their first child with subsequent children. (Da Vanzo et al., 1997) However, a more recent analysis of birth certificates in New Jersey found considerable fluctuations in breastfeeding status at hospital discharge for births to the same mother. (Kruse et al., 2005) In that study, mothers who breastfed their first child exclusively had higher rates of subsequent breastfeeding than those who supplemented breastfeeding with formula. In addition, it has

also been suggested that the duration a woman breastfeeds her first born is an important predictor of whether or not she will breastfeed a later-born child (Da Vanzo et al., 1997).

Time to breastfeeding initiation is one of the commonly reported independent predictors of exclusive breastfeeding in many communities [Forster et al., 2007]. Over the years, UNICEF has promoted breastfeeding initiation within half an hour of childbirth as an important strategy to reduce perinatal and infant morbidities and mortality, and by extension to support the attainment of Millennium Development Goal 4: reduce child mortality [Huffman et al., 2009 and Sheehan et al., 1999]. Other predictors of breastfeeding initiation include educational level, parity, age, socioeconomic status and ethnicity [Kelly et al., 2006 and Scott et al., 1999].

There are various sociocultural norms that act as barriers to the practice/ adoption of exclusive breastfeeding (EBF) by mothers in Nigeria [Eregie, 2001 and Feyisetan 1990]. The cultural barrier against breastfeeding with colostrums has been previously reported in Nigeria, as the fluid is regarded as a "poison" [Nwankwo, 2005]. In addition, use of prelacteal feeds to complement breastfeeding has also remained a challenge in Nigeria [Nwankwo, 2005]. Breastfeeding is recommended by multiple health agencies as the preferred method of infant feeding for at least 1 year because of its numerous benefits, both immediate and long term, for both mothers and babies.

The Baby Friendly Initiative (BFI) was launched in Nigeria in the early 1990s with the sole aim of integrating all the Ten Steps into the health care system with the intention of promoting breastfeeding practices to all nursing mothers except those with HIV infection [Covington 2005]. The fourth Step is to encourage initiation of breastfeeding within half an hour of childbirth [WHO and UNICEF, 2008]. Since then, the authority of the University College Hospital, Ibadan (a tertiary public health institution) had adopted this policy and pronounced the hospital as one of the BFI designated sites (as is the practice in Nigeria). In spite of this, the majority of studies that have evaluated breastfeeding practices in Nigeria have reported low levels of exclusive breastfeeding. [WHO and UNICEF, 2008].

Birth order is defined as a person's rank by age among his or her siblings. Birth order is often believed to have a profound and lasting effect on psychological development. This assertion has been repeatedly challenged by researchers, yet birth order continues to have a strong presence in pop psychology and popular culture. [WHO and UNICEF, 2008].

1.1 PROBLEM STATEMENT

Researchers have stated that various nutritionally health problems with regards to chronicity, do occur in children as a result of inappropriate breastfeeding practices adopted by mothers (Guiro, 1987). These health problems include infections and growth retardation, with prolong case resulting to malnutrition and invariably mortality (UNICEF, 2001).

Ignorance of mothers to appropriate breastfeeding practices is a disadvantage to the proper well being of a child. Most mother with low- level of education are mostly affected in such situations(Ighedioh,1996).This problem of negligence on the part of such mothers have been directed to health educators and personnel's who fail in their duties of ensuring proper counselling on nutritional related matters(Ahmed and Al-shosari,2007).

However, a more recent analysis of birth certificates in New Jersey found considerable fluctuations in breastfeeding status at hospital discharge for births to the same mother. In that study, mothers who breastfed their first child exclusively had higher rates of subsequent breastfeeding than those who supplemented breastfeeding with formula. In addition, it has also been suggested that the duration a woman breastfeeds her first born is an important predictor of whether or not she will breastfeed a later-born child.

A rapid assessment interview carried out showed that multiparous women usually breastfeed their first child exhibit delay in early breastfeeding initiation and subsequent breastfeeding of their other children due to the pain they encounter while breastfeeding their first child. (Krues L et al., 2005)

Similarly the problem of job opportunity which arises after the birth of the first child has also led to the delay in breastfeeding initiation and inadequate breastfeeding or limiting the duration of breastfeeding the second and other children respectively.(Krues L et al., 2005)

It is interesting to consider yet difficult to clearly delineate the association between birth order and duration of breastfeeding. In addition, often women stop breastfeeding when they have another pregnancy. However, very few articles have focused on the relationship between birth order and breastfeeding.(Scott et al., 1999)

1.3 JUSTIFICATION

This study promote the understandings of infant feeding experiences which will provide an important public health prospective on infant nutrition. Several studies have considered impact of maternal demographics, employment, the health care system, maternal-child health medical issues, and cultural beliefs on breastfeeding initiation. (Scott et al .,1999 and Fein et al ., 1998) However, very few articles have focused on the relationship between birth order

and breastfeeding initiation and duration. Thus this study sought to determine the association between birth order and breastfeeding practices in families with two or more children.

1.4 RESEARCH QUESTIONS

1. How does birth order affect exclusive breastfeeding ?
2. Do nursing mother practice exclusive breastfeeding?
3. What factors influence women decision to breastfeed?

1.5 GENERAL OBJECTIVE

To determine the association between birth order and exclusive breastfeeding practices in mothers with two or more children.

1.6 SPECIFIC OBJECTIVES

The specific objectives of this study are to:

1. To determine the prevalence of knowledge, practice and attitude towards exclusive breastfeeding.
2. To describe the socio demographic characteristics associated with exclusive breastfeeding.
3. To determine relationship between knowledge and practice of exclusive breastfeeding.
4. To determine the association between birth order and exclusive breastfeeding

CHAPTER TWO

LITERATURE REVIEW

2.0 DEFINITION OF BREASTFEEDING, EXCLUSIVE BREASTFEEDING, BREAST MILK AND LACTATION

Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breast (i.e., via lactation) rather than from a Baby bottle or other container (Armstrong J et al., 2003). Babies have a suckling reflex that enables them to suck and swallow milk. Most mothers can breastfeed for six months or more, without the addition of infant formula or solid food.

Exclusive breastfeeding (EBF) is defined as the exclusive intake of breast milk by an infant from its mother or wet nurse, or expressed milk with no addition of any liquid or solids Apart from drops or syrups consisting of vitamins, mineral supplements or medicine Exclusive breastfeeding is when an infant received no other food or drink besides breast milk which meets all the nutritional needs of a baby for the first 6 months (Armstrong J et al., 2003).

Breast milk is the most suitable food for human newborn and safest way of feeding infants for the first four to six months of life. It provides the perfect nutrition for infants and lays the foundation for their healthy psychosocial development (Ahmed, 1997). the constituents of breast milk such as fat, vitamins, minerals and iron are ideal for the newborn's nutritional needs up to four to six months (Shah and Khanna, 1990). In communities with a high prevalence of malnutrition, breast-feeding may enhance child survival up to 3 years of age (Briend et al, 1998). Human breast milk is the most healthful form of milk for human babies (Picciano 2001)

Lactation is the process of production, secretion and ejection of milk (Tully, Jones and Tully, 2001)

2.1 HISTORY OF BREASTFEEDING

For hundreds of thousands of years, human, like all other mammals, fed their young infant milk. Before the twentieth century, alternative to breastfeeding were rare. Attempt in 5th century Europe to use cow or goat milk were not very positive. In the 18th century, flour or cereal mixed with broth were introduced as substitutes for breastfeeding, this did not have a favourable outcome either. true commercial infant formulas appeared on the market in the mid-century but their use did not become widespread until after World War II. As the superior qualities of breast milk became better established in the medical literature,

breastfeeding rates have increase and countries have enacted measure to protect the rights and mothers to breastfeed.

2.2 METHODS AND CONSIDERATIONS OF BREASTFEEDING

2.2.1 EARLY BREASTFEEDING

In the half hour after birth, the baby's suckling reflex is strongest, and the baby is more alert, so it is the ideal time to start breastfeeding (Widstorm et al., 1990). Early breast-feeding is associated with fewer night time feeding problems. (Renfrew and Lang, 1998)

2.2.2 TIME AND PLACE FOR BREASTFEEDING

Breastfeeding at least every two to three hours helps to maintain milk production. For most women, eight breastfeeding or pumping sessions every 24 hours keeps their milk production high. (Gartner, 2005). Newborn babies may feed more often than this: 10 to 12 breastfeeding sessions every 24 hours is common, and some may even feed 18 times a day. Feeding a baby "on demand" (sometimes referred to as "on cue"), means feeding when the baby shows signs of hunger; feeding this way rather than by the clock helps to maintain milk production and ensure the baby's needs for milk and comfort are being met. (WHO, 2008)

In hospitals, rooming in care permits the baby to stay with the mother and improves the ease of breastfeeding. Some commercial establishments provide breastfeeding rooms, although laws generally specify that mothers may breastfeed anywhere, without requiring them to go to a special area.

2.2.3 LATCHING ON, FEEDING AND POSITIONING

Correct positioning and technique for latching on can prevent nipple soreness and allow the baby to obtain enough milk. (Sears, 2006) The "rooting reflex" is the baby's natural tendency to turn towards the breast with the mouth open wide. In order to prevent nipple soreness and allow the baby to get enough milk, a large part of the breast and areola need to enter the baby's mouth. (Sears, 2006) To help the baby latch on well, tickle the baby's top lip with the nipple, wait until the baby's mouth opens wide, and then bring the baby up towards the nipple quickly, so that the baby has a mouthful of nipple and areola. the nipple should be at the back of the baby's throat, with the baby's tongue lying flat in its mouth. The baby may pull away

from the nipple after a few minutes or after a much longer period of time. Normal feeds at the breast can last a few sucks (newborns), from 10 to 20 minutes or even longer (on demand). Sometimes, after the finishing of a breast, the mother may offer the other breast.

While most women breastfeed their child in the cradling position, there are many ways to hold the feeding baby. It depends on the mother and child's comfort and the feeding preference of the baby. Some babies prefer one breast to the other, but the mother should offer both breasts at every nursing with her newborn.

2.3 EXCLUSIVE BREASTFEEDING

Exclusive breastfeeding is when an infant received no other food or drink besides breast milk which meets all the nutritional needs of a baby for the first 6 months and continue to make a significant contribution to the baby's nutritional and emotional health into the second year and beyond (UNICEF, 1994). National and International guidelines recommend that all infants be breastfed exclusively for the first six months of life. Breastfeeding may continue with the addition of appropriate foods, for two years or more. Exclusive breastfeeding dramatically reduce infant and infectious diseases. Exclusively breastfed infants feed anywhere from 6 to 14 times a day. Newborns consume from 30 to 90ml. After the age of four weeks, babies consume about 120ml per feed. While it can be hard to measure how much food a breastfed baby consumes, baby normally feed to meet their own requirements (Iwinski, 2006). It is one of the cardinal components of the Baby Friendly Hospital Initiative (BFHI) aimed at protecting, promoting and supporting breastfeeding for optimal maternal and child health, and is part of the 1990 Innocenti Declaration which states that all governments should create an environment enabling women to practice EBF for the first 6 months of life and to continue breastfeeding with adequate complementary foods for up to two years. (UNICEF, 1994). Exclusive Breastfeeding rates (EBFR) reported in national surveys (NDHS, 1990) and from different centres (ogbonna et al., 2000) have been rather low (0 - 53.9%), despite the promotion of BFHI programmes in these health institutions, which is thought to be because of several factors in them others' environments. These factors could be social, physical, biological and psychological, and may impact positively or otherwise on the ability and willingness of women to practice exclusive breastfeeding

2.4 EXPRESSING BREAST MILK

When direct breastfeeding is not possible, a mother can express (artificially remove and store) her milk with a breast pump, a woman can express her milk and keep it in freezer storage bags, a supplement nursing system, or bottle ready for use. Breast milk may be kept at room temperature for up to ten hours, refrigerated for up to eight days or frozen for up to four to six months. Research suggests that the antioxidant in express breast milk decreased over time but it still remains at higher level than in infant formula (Hanna et al., 2004). Expressing breast milk can maintain a mother's milk supply when she and her child are apart. If a sick baby is unable to feed, expressed milk can be fed through a nasogastric tube. Expressed breast milk can also be used when a mothers is having trouble breastfeeding, such as when a newborn causes grazing and bruising." Exclusively Expressing", Exclusive pumping" and "Eping" are terms for mother who feeds her baby exclusively by her breast milk while not physically breastfeeding. This may arise because her baby is unable unwillingly to latch the breast.

2.5 BENEFITS OF EXCLUSIVE BREASTFEEDING FOR THE INFANT

2.5.1 Greater Immune Health

During breastfeeding colostrums pass to the baby. (CDC, 2007) This is one of the most important features of colostrums, the breast milk created for newborns. Breast milk contains several anti- infection factors such as salt dependent lipase (protecting against amoeba infections), lactoferrin (which binds to iron and inhibits the growth of gut flora) (Kunz et al., 1999) and immunoglobulin A protecting against microorganisms (Glass, 1983).

2.5.2 Protection from SIDS

Breastfed babies have better arousal from sleep at 2-3 months. This coincides with the peak incidence of sudden infant death syndrome. (Horne et al., 2004) A study found that breastfeeding halved the risk of sudden infant death syndrome in children up to the age of 1. (Vennemann et al., 2009)

2.5.3 Less diabetes

Infants exclusively breastfed have less chance of developing diabetes mellitus type 1 than peers with a shorter duration of breastfeeding and an earlier exposure to cow milk and solid foods (Perez-Bravo et al., 1996). Breastfeeding also appears to protect against diabetes mellitus type 2, (Horta et al., 2007) at least in part due to its effects on the child's weight. (Leeson et al., 2006)

2.5.4 Less childhood obesity

Breastfeeding appears to reduce the risk of extreme obesity in children aged 39 to 42 months. The protective effect of breastfeeding against obesity is consistent, though small, across many studies, and appears to increase with the duration of breastfeeding. (Arenz et al., 2004).

2.5.5 Fewer tendencies to develop allergic diseases (atopy)

In children who are at risk for developing allergic diseases (defined as at least one parent or sibling having atopy), atopic syndrome can be prevented or delayed through exclusive breastfeeding for four months, though these benefits may not be present after four months of age. (Greer et al., 2008)

2.5.6 Less necrotizing enterocolitis in premature infants

Necrotizing enterocolitis (NEC) is an acute inflammatory disease in the intestines of infants. It is mainly found in premature birth. In one study of 926 preterm infants, NEC developed in 51 infants (5.5%). The death rate from necrotizing enterocolitis was 26%. NEC was found to be six to ten times more common in infants fed formula exclusively, and three times more common in infants fed a mixture of breast milk and formula, compared with exclusive breastfeeding. (Lucas et al., 1990)

2.5.7 Other long term health effects

In one study, breastfeeding did not appear to offer protection against allergy. (Kramer et al., 2007). However, another study showed breastfeeding to have lowered the risk of asthma, protect against allergies, and provide improved protection for babies against respiratory and intestinal infections (Mead, 2008)

Breastfeeding may decrease the risk of cardiovascular disease in later life, as indicated by lower cholesterol and C-reactive protein levels in adult women who had been breastfed as infants (Williams et al., 2006)

2.6 BENEFITS OF EXCLUSIVE BREASTFEEDING FOR MOTHERS

Breastfeeding is a cost effective way of feeding an infant, providing nourishment for a child at a small cost to the mother. Frequent and exclusive breastfeeding can delay the return of fertility through Lactational amenorrhea method, though breastfeeding is an imperfect means of birth control. During breastfeeding beneficial hormones are released into the mother's body (CDC 2007) and the maternal bond can be strengthened. (U.S. Department of Health and Human Services, 2009) Breastfeeding is possible throughout pregnancy, but generally milk production will be reduced at some point. (Feldman, 2000)

2.6.1 Bonding

Hormones released during breastfeeding help to strengthen the maternal bond. (U.S. Department of Health and Human Services 2009) Teaching partners how to manage common difficulties is associated with higher breastfeeding rates. (Pisacane et al., 2005) Support for a mother while breastfeeding can assist in human bonding and help build a paternal bond between father and child. (Van Willigen, 2002).

2.6.2 Hormone release

Breastfeeding releases oxytocin and prolactin, hormones that relax the mother and make her feel more nurturing toward her baby (Stuart-Macadam and Dettwyler, 1995). Breastfeeding soon after giving birth increases the mother's oxytocin levels, making her uterus contract more quickly and reducing bleeding. Prolactin, a synthetic hormone used to make the uterus contract during and after labour, is structurally modeled on oxytocin. (Chua et al., 1994)

2.6.3 Weight loss

As the fat accumulated during pregnancy is used to produce milk, extended breastfeeding—at least 6 months—can help mothers lose weight. (Dewey et al., 1993) However, weight loss

is highly variable among lactating women; monitoring the diet and increasing the amount/intensity of exercise are more reliable ways of losing weight. (Lovelady et al., 2000). The 2007 review for the AHRQ found "The effect of breastfeeding in mothers on return-to-pre-pregnancy weight was negligible, and the effect of breastfeeding on postpartum weight loss was unclear.

2.6.5 Long-term health effects

For breastfeeding women, long-term health benefits include: Less risk of breast cancer, ovarian cancer, and endometrial cancer (Newcomb et al., 2000). A 2009 study indicated that lactation for at least 24 months is associated with a 23% lower risk of coronary heart disease. (Stuebe et al., 2009). Although the 2007 review for the AHRQ found "no relationship between a history of for a shorter duration or who had never breast fed (Pikwer et al., 2009), lactation and the risk of osteoporosis (Raman et al., 2007), mothers who breastfeed longer than eight months benefit from bone re-mineralization. (Melton III et al., 1993). Breastfeeding diabetes mothers require less insulin (Rayburn et al., 1985) and it reduces risk of post-partum bleeding. (Chua et al., 1994)

2.6.6 Breastfeeding difficulties

While breastfeeding is a natural human activity, difficulties are not uncommon. Putting the baby to the breast as soon as possible after the birth helps to avoid many problems. The AAP breastfeeding policy says: "Delay weighing, measuring, bathing, needle-sticks, and eye prophylaxis until after the first feeding is completed.(Gartner, 2005) Many breastfeeding difficulties can be resolved with proper hospital procedures, properly trained midwives, doctors and hospital staff, and lactation consultants.(Newman and Pitman,2000) There are some situations in which breastfeeding may be harmful to the infant, including infection with HIV and acute poisoning by environmental contaminants such as lead.(Mead, 2008) Rarely, a mother may not be able to produce breast milk because of a prolactin deficiency. This may be caused by Sheehan's syndrome, an uncommon result of a sudden drop in blood pressure during childbirth typically due to haemorrhaging. In developed countries, many working mothers do not breast feed their children due to work pressures.

2.6.7 Infant weight gain

Breastfed infants generally gain weight according to the following guidelines:

0–4 months: 6 oz. per week[†]

4–6 months: 4–5 oz. per week

6–12 months: 2–4 oz. per week

[†] It is acceptable for some babies to gain 4–5 ounces per week. This average is taken from the lowest weight, not the birth weight.

The average breastfed baby doubles its birth weight in 5–6 months. By one year, a typical breastfed baby will weigh about 2½ times its birth weight. At one year, breastfed babies tend to be leaner than bottle fed babies. (Sears, 2007) By two years, differences in weight gain and growth between breastfed and formula-fed babies are no longer evident. (Mohrbacher and Stock, 2003)

KNOWLEDGE, PRACTICE AND ALTITUDE OF MOTHERS TOWARDS EXCLUSIVE BREASTFEEDING

In the study conducted by U O Uchendu in university of Nigeria teaching hospital Enugu in October 2006 Exclusive Breastfeeding rates (EBFR) reported in national surveys (NDHS, 1999) and from different centres (Otaigbe BE et al., 2005) have been rather low (0 - 53.9%), despite the promotion of BFHI programmes in these health institutions, which is thought to be because of several factors in the mothers' environments. These factors could be social, physical, biological and psychological, and may impact positively or otherwise on the ability and willingness of women to practice EBF. Some researchers have proposed that lack of suitable facilities outside of the home, inconvenience; conflicts at Work, family pressure and ignorance adversely affect the willingness of women to practice EBF. (Ogbonna C et al., 2000) The need to return to work or school has also been implicated as a factor interfering with EBF. Various misconceptions by mothers have also been noted to adversely affect EBF; these include beliefs that breast milk is insufficient or of poor quality, and that the baby does not gain weight adequately or is thirsty. (Ogbonna C et al., 2000) A previous study (Aghaji MN 2002) in the Enugu area had noted an EBF rate of 33.3% for up to the first 4 months after delivery. Our study aimed at establishing the factors that affect EBF practices up to 6

months after delivery (as is currently recommended) among mothers seen at the University of Nigeria Teaching Hospital (UNTH) Enugu, Nigeria.

the study conducted in University of Nigeria Teaching Hospital (UNTH) Enugu, Nigeria 153 (83.2%) out of 184 families, an extended family member was present at times after delivery of the child that coincided with initiation or maintenance of breastfeeding. Only 24 Mothers had no extended family member living with them. These data were missing in 7 cases. Of the 184 mothers, 173 (94%) correctly defined EBF, and 167 (90.8%) knew that it should be practiced for 6 months, in line with current recommendations. Shows the various EBFRs and the percentage of women who achieved those levels. The overall 6-month EBFR for the study group was 32.4%. Only 39 (21.2%) women practiced EBF for all their children, while 95 (51.6%) did not practice EBF for any child.

In a similar study conducted on breastfeeding mothers, Socio-demographic characteristics and the different EBFRs achieved by different socio-economic classes shown that Women who had fewer children had higher EBFRs but a statistically significant difference was noted between those with 1 - 2 or 3 - 4 children, and those with ≥ 5 children ($p < 0.001$). Mother's ≤ 25 years or ≥ 36 years had lower EBFRs in comparison with those in between these ages. Higher maternal education apparently favours better EBF performance, especially among women with at least secondary school education.

CHAPTER THREE

METHODOLOGY

3.1 STUDY DESIGN

This is a descriptive cross-sectional study of multiparous mothers.

3.2 STUDY AREA

The study was carried out in adeoyo maternity hospital, yemetu located at Ibadan, Oyo State. Oyo State is one of the 36 states of Nigeria and is located in the South Western region of the

country. The State was created in 1976 out of the old Western region and has a projected population of about 4 million (National population commission 2000).

3.3 STUDY POPULATION

The study population consist of mothers aged 15 to 44 with two or more children that are attending both antenatal and post natal activities at adeoyo maternity hospital, yemetu located at Ibadan, Oyo State.

3.4 SAMPLE SIZE DETERMINATION.

The sample size was calculated using Leslie Kisch's formular

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

n= minimum sample size

$$Z=1.96$$

P=the proportion of multiparous mothers that practices exclusive breastfeeding estimated at 75% (0.75) (Ogunlesi, 2005)

$$q=1-p$$

d=5% level of significant

$$n= (1.96)^2(0.75)(0.25)/0.05^2$$

n=288 mothers with more than a child in yemetu maternity hospital Ibadan

3.5.1 SAMPLE METHOD

Systematic random sampling technique was used to recruit subject for the study. Participants were interviewed as they came into the hospital. The process continued until the required number of sample size (288) was obtained.

3.5.1 Inclusion criteria.

- a. Mothers with two or more children
- b. Mothers with children younger than age 18 from single ton births.

3.5.2 Exclusion criteria

1. Women with only one child
2. Women with children older than age 18.
3. women with no child

3.5. DATA COLLECTION

Data was collected using an interviewer administered questionnaire which consists of the following.

- a. Socio demographic characteristics.
- b. Childs vital information
- c. Mothers knowledge of breastfeeding
- d. Pregnancy and delivery history
- e. Breastfeeding practices of mothers
- f. Mothers attitude to breastfeeding

3.6 DATA MANAGEMENT AND STATISTICAL ANALYSIS

Data was entered, edited, and analyze with SPSS statistical software (version 15). This included the analysis of mother's socio-demographics data of age, marital status, occupation, educational level, ethnicity and mother's parities. Frequency table diagrams and graph for these data shall be computed.

The main variable of interest was birth order; the main outcome measure were exclusive breastfeeding practices for each mother-child pair. Univariate analysis was employed to calculate frequencies and distributions of each variable. Chi-square test was used for bivariate analyses to test the significance of the association between categorical variables and the practice of exclusive breastfeeding. Logistic regression analysis was performed to identify the factors associated with the outcome variable.

3.7 ETHICAL CONSIDERATION

Ethical clearance was obtained from the ministry of health research and ethical committee. The research was at no cost to the participants as the researcher shall bear the cost. Informed written consent was obtained from the mothers and permission was taken from the hospital.

3.8 LIMITATION OF STUDY

There may be problems of recall bias due to the retrospective nature of the study, a single health care facility would be used and it may not be representative enough. Hospital based studies may underestimate the actual burden of disease in the community and it is seriously influenced by health seeking behavior. There is also the possibility that an infant had received some other type of feeding from someone else without the mother's knowledge. Furthermore, some infants may have shifted from one feeding pattern to another, and then returned to the previous one and the study is limited to mothers with multiple children

CHAPTER FOUR

RESULTS

4.1 MATERNAL DEMOGRAPHIC CHARACTERISTICS

Table 4.1 shows the demographic characteristics of the mothers. The mean age of mothers was 30.4 years (SD 4.4 years). Majority of the mothers were aged between 30-34 years

(38.6%) followed by those aged 25-29 years (29.8%), 35 years and above (25.3%) and 20-24 years (6.3%). There were more mothers in others occupations (71.9%) compared to those with skilled occupations (28.1%). Majority of the fathers had semi skilled occupations (56.55). Majority of the mothers were married (96.9%) and had secondary level of education highest (55.8%). A little above half of the mothers were Muslims (57.0%) while majority were Yoruba's (93.7%). Mothers with two children were more (55.9%) than those with three children (33.0%). Those with four children and above were only about 11.1%.

Table 4.1 MATERNAL DEMOGRAPHIC CHARACTERISTICS

MATERNAL DEMOGRAPHIC FACTOR	FREQUENCY (%)
MEAN AGE (SD)	
MOTHERS	30.4 (4.4)
AGE GROUPS	
20-24	15 (6.3)
25-29	85 (29.8)
30-34	110 (38.6)
35 AND Above	72 (25.3)
TOTAL	285 (100)
MOTHERS OCCUPATION	
Skilled	80 (28.1)
Others	205 (71.9)
TOTAL	285 (100)
FATHERS OCCUPATION	
Skilled	124 (43.5)
Semi skilled	161 (56.5)
TOTAL	
EDUCATIONAL LEVEL	
Primary	43 (15.1)
Secondary	159 (55.8)
Tertiary/ post tertiary	83 (29.1)
TOTAL	285 (100)
MARITAL STATUS	
Married	277 (96.9)
Others	9 (3.1)
TOTAL	286 (100)
ETHNICITY	
Yoruba	268 (93.7)
Others	18 (6.3)
TOTAL	286 (100)

RELIGION	
Christianity	123 (43.0)
Islam	163 (56.9)
TOTAL	286 (100)
NUMBER OF CHILDREN	
Two children	161 (55.9)
Three children	95 (33.0)
Four/five children	32 (11.1)
TOTAL	288 (100)

4.2 DEMOGRAPHIC CHARACTERISTICS OF CHILDREN

Table 4.2 shows the demographic characteristics of the children. The mean age of the children was 56.0 months (SD 41.1 months). Majority of the children were aged between 1-60 months (66.1%) and were males (60.5%).

Table 4.2 DEMOGRAPHIC CHARACTERISTICS OF CHILDREN

DEMOGRAPHIC CHARACTERISTICS OF CHILDREN	FREQUENCY (%)
MEAN AGE	56.0 (41.4)
AGE OF CHILDREN(MONTHS)	
1-60	
61-144	486 (66.1)
145 and above	228 (31.0)
Total	21 (2.9)
	735 (100)
SEX	
Male	445 (60.5)
Female	290 (39.5)
Total	735 (100)

4.3 BREASTFEEDING PRACTICES RECEIVED BY MOTHERS

Table 4.3 shows mother's breastfeeding practices for all children. Majority of the children were exclusively breastfed (62.9%) and were immediately put to the breast after delivery (57.8%). Children who were given baby formular had the highest percentage (46.7%) followed by those who were given multi mix (30.0%), pap (16.7%) and pap and milk (6.7%).

TABLE 4.3 BREASTFEEDING PRACTICES RECEIVED BY MOTHERS

BREASTFEEDING PRACTICES RECEIVED BY CHILDREN	FREQUENCY BY BIRTH ORDER (PERCENTAGE)				
	TOTAL	FIRST CHILD	SECOND CHILD	THIRD CHILD	FOURTH/FIFTH CHILD
EXCLUSIVE BREASTFEEDING					
Yes	462 (62.9)	163 (57.0)	191 (66.8)	91 (70.0)	16 (48.5)
No	273 (37.1)	123 (43.0)	95 (33.2)	38 (29.5)	17 (51.5)
Total	735 (100)	286 (100)	286 (100)	129 (100)	33 (100)
TIME OF INITIATION OF BREAST FEEDING					
Immediately	421 (57.8)	166 (58.5)	167 (59.0)	75 (58.6)	13 (39.4)
Hours	307 (42.2)	118 (41.5)	116 (41.0)	53 (41.4)	20 (60.6)
Days	728 (100)	284 (100)	283 (100)	128 (100)	33 (100)
Total	98(54.3)	3(12.2)	40(14.0)	18(13.8)	5(14.3)
SUPPLEMENTARY FOODS GIVEN					
Multi mix	9 (30.0)	4 (36.4)	4 (33.3)	1 (14.3)	
Pap	5 (16.7)	1 (9.1)	2 (16.7)	2 (28.6)	
Pap and milk	2 (6.7)	1 (9.1)	1 (8.3)		
Baby formular	14 (46.7)	5 (45.5)	5 (41.7)	4 (57.1)	
Total	30 (100)	11 (100)	274 (100)	122 (100)	

4.4 ASSOCIATION BETWEEN EXCLUSIVE BREASTFEEDING AND SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE MOTHERS

Table 4.4 shows the association between exclusive breastfeeding and demographic characteristics of the mothers. Majority of the mothers were aged between 20-24 years (72.2%) exclusively breastfed their children followed by those 35 years and above (59.7%), those aged 25-29 years (55.3%), and 30-34 years (53.6%). This was not significant at $p=0.47$. The mothers who were skilled (58.8%) exclusively breastfed their children compared to those in others occupations (56.1%). This was not significant at $p=0.68$

Majority of the husband (59.7%) that their wives exclusively breastfed had skilled occupations compared to those that were semi skilled (5.7%). This was not significant at $p=0.39$

Mothers who had tertiary level of education (61.4%) who exclusively breastfed were the highest when compared to those who had secondary level of education (54.1%). This was not significant at $p=0.53$

Majority (77.8%) of the mothers who exclusively breastfed were others (divorce, widows and single) compared to those that were married (56.3%) and had secondary level of education highest (55.8%). This was significant at $p=0.20$

The mothers who were Christians (63.4%) exclusively breastfed compared to those were Islam (52.1%). This was significant at $p=0.05$. Mothers who exclusively breastfed (77.8%) were other (hausa, igbo and others) compared to those who were Yoruba (55.6%). This was not significant at $p=0.06$.

A slightly greater proportion of mothers with three children reported exclusive breastfeeding (69.7%) compared to those with two (61.1%) and four/five children (51.9%). This was significant at $p=0.002$.

TABLE 4.4 BIVARIATE ANALYSIS OF EXCLUSIVE BREASTFEEDING WITH SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE MOTHERS

SOCIO DEMOGRAPHIC CHARACTERISTICS	EXCLUSIVE BREASTFEEDING		Total	Chi square	P-value
	Yes (%)	No (%)			
AGE GROUPS					
20-24	13 (72.2)	5 (27.8)	18 (100)	2.523	0.471
25-29	47 (55.3)	38(44.7)	85 (100)		
30-34	59 (53.6)	51 (46.4)	110 (100)		
35 AND Above	43 (59.7)	29 (40.3)	72 (100)		
MOTHERS OCCUPATION					
Skilled	47 (58.8)	33 (41.3)	80 (100)	0.165	0.685
Others	115 (56.1)	90 (43.9)	205 (100)		
HUSBAND OCCUPATION					
Skilled	74 (59.7)	50(40.3)	124 (100)	0.719	0.396
Semi skilled	88 (54.7)	73 (45.3)	161 (100)		
EDUCATIONAL LEVEL					
Primary or non	25 (58.1)	18 (41.9)	43 (100)	1.238	0.538
Secondary	86 (54.1)	73 (45.9)	159(100)		
Tertiary/ post tertiary	51 (61.4)	32 (38.6)	83 (100)		
MARITAL STATUS					
Married	156 (56.3)	121 (43.7)	277 (100)	1.638	0.201
Others	7 (77.8)	2 (22.2)	9 (100)		
ETHNICITY					
Yoruba	149 (55.6)	59 (53.6)	268 (100)	3.386	0.066
Others	14 (77.8)	4 (22.2)	18 (100)		
RELIGION					
Christianity	78 (63.4)	45 (36.6)	123 (100)	3.631	0.057
Islam	85 (52.1)	78 (47.9)	163 (100)		
PARITY					
Two children	193 (61.1)	123 (38.9)	316 (100)		

Three children	202 (69.7)	88 (30.3)	290 (100)	12.757	0.002
Four/five children	67 (51.9)	62 (48.1)	129 (100)		

4.5 ASSOCIATION BETWEEN EXCLUSIVE BREASTFEEDING AND SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE CHILDREN

Table 4.5 shows the association between exclusive breastfeeding and the demographic characteristics of the children. The children that were 145 months and above (71.4%) were exclusively breastfed were the highest compared to those who are between 1-60 months (65.6%) and those between 61-144 months (56.1%). This was however significant at $p=0.03$. The children who were males (63.8%) were exclusively breastfed than those who were females (61.4%). This was not significant at $p=0.50$.

TABLE 4.5 BIVARIATE ANALYSIS OF EXCLUSIVE BREASTFEEDING WITH SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE CHILDREN

DEMOGRAPHIC CHARACTERISTICS OF CHILDREN	EXCLUSIVE BREASTFEEDING		Total	Chi square	P-value
	Yes (%)	No (%)			
AGE OF CHILDREN (MONTHS)	319 (65.6)	167 (34.4)	486 (100)	6.67	0.03
1-60	128 (56.1)	100 (43.9)	228 (100)		
61-144	15 (71.4)	6 (28.6)	21 (100)		
145 and above					

4.6 ASSOCIATION BETWEEN EXCLUSIVE BREASTFEEDING AND BIRTH ORDER

Table 4.6 shows the association between exclusive breastfeeding and birth order. A slightly higher proportion of third children had been exclusively breastfed (70.5%) followed by second children (66.8%), first children (57.0%) and fourth and fifth children (48.5%). This was significant at $p=0.006$

TABLE 4.6 BIVARIATE ANALYSIS OF EXCLUSIVE BREASTFEEDING WITH BIRTH ORDER

BIRTH ORDER	EXCLUSIVE BREASTFEEDING		Total	Chi square	P-value
	Yes (%)	No (%)			
First child	163 (57.0)	123 (43.0)	286 (100)	12.276	0.006
Second child	191 (66.8)	95 (33.2)	286 (100)		
Third child	91 (70.5)	38 (29.5)	129 (100)		
Fourth/fifth child	16 (48.5)	17 (51.5)	33 (100)		
TIME OF INITIATION OF BREASTFEEDING					
Immediately	270 (64.1)	187 (60.7)	421 (100)	0.889	0.346
Hours	151 (35.9)	121 (39.3)	308 (100)		

4.7 LOGISTIC REGRESSION OF SOCIO DEMOGRAPHIC CHARACTERISTICS AND EXCLUSIVE BREASTFEEDING

Table 4.7 shows the logistic regression output for exclusive breastfeeding. After adjusting for other variables, mothers who are Yoruba are two times less likely to have exclusively breastfed their children compared to mothers from other ethnic group. (OR=0.494, 95%CI= 0.247-0.986). Mothers who are Christians are more likely to have exclusively breastfed their children compared to mothers who are Muslims. (OR= 1.347, 95%CI= 0.984-1.843). The children who are between 1-60 months are six times less likely to be exclusively breastfed compared the children that were 145 months and above (OR= 0.517, 95%CI= 0.177-1.508) children who are between 1-60 months are two times less likely to be exclusively breastfed compared the children that were 145 months and above. (OR= 0.418, 95%CI= 0.149-1.169). The first child are less likely to be breastfed than the fourth child, second child is more likely to be breastfed than the fourth and fifth child while the third child are two times more likely to be exclusively breastfed than the fourth and fifth child (OR= 1.540, 95%CI= 0.652-3.638).

Mothers with three children were about two times more likely to have exclusively breastfed their children compared to mothers with four/five children. (OR= 2.168, 95%CI= 1.307-3.596). Mothers who initiated breastfeeding immediately are less likely to be exclusively breastfed compared to those who breastfed hours after delivery.

TABLE 4.7: LOGISTIC REGRESION OF EXCLUSIVE BREASTFEEDING ON VARIABLES

Variable	Odds ratio	95% CI or	P-value
ETHNICITY			
Yoruba	0.515	0.254-1.046	0.066
Others			
RELIGION			
Christianity	1.347	0.984-1.843	0.063
Islam			
CHILD AGE (yrs)			
0-5	0.517	0.177-1.508	0.227
5-10	0.418	0.149-1.169	0.096
10 and above			
BIRTH ORDER			
First child	0.919	0.373-2.268	0.855
Second child	1.355	0.577-3.182	0.486
Third child	1.540	0.652-3.638	0.325
Fourth/fifth child			
PARITY			
Two children	1.609	0.920-2.813	0.095
Three children	2.168	1.307-3.596	0.003
Four/five children	2.941		
TIME OF INITIATION OF BREASTFEEDING			
Immediately	0.864	0.638-1.170	0.346
Hours	2.069		

CHAPTER FIVE

DISCUSSION

This study provides insight the relationship between birth order and exclusive breastfeeding practices and their socio demographic factors among multiparous mothers.

SOCIO DEMOGRAPHIC CHARACTERISTICS

The mean age of the mothers was 30.9 ± 4.4 years and the age range was 20-45. The highest proportion (38.6%) of mothers was in the age group 30 - 34 when compared with the others and those (6.3%) in the age group 20 – 24 having the least. Majority of the participants were married when compared to others who were single, divorced or widowed. Among all the respondents more than half had a secondary educational level while the least were those who had a primary or none.

Mothers occupation was such that majority were either unskilled or semi skilled when compared to those that were skilled. Also the occupation of the husband was the same. The predominant ethnic group was Yoruba compared to Islam.

DEMOGRAPHIC CHARACTERISTICS OF THE CHILDREN

The mean age of the children was 56.0 ± 41.4 months and the age range was 1- 145 months. The highest proportion of the children was in the age group 1 – 60 months when compared with the others while those aged 145 months and above were the least. Majority of the children were males when compared to the females

BREASTFEEDING PRACTICES RECEIVED BY MOTHERS

The prevalence of exclusive breastfeeding was 62.9%. This figure although above average can still be considered low considering the increasing awareness on the importance of exclusive breastfeeding gives to mothers during ante natal care. This is however not consistent with the findings conducted in Enugu, Nigeria by (Uchendu et al., 2009) which reported that one third of the mothers exclusively breastfed their children.

Majority of the mothers breastfed their first and third child exclusively, this however decreased with the second child and then the fourth/ fifth child. Those shows an increase rate of breastfeeding with smaller family size < 4 children.

A little above half of the mothers initiated breast feeding in all their children immediately after birth. This was however not the case with mothers with four/five children who initiated breastfeeding hours after birth. This is likely due to the fact that mothers with more children

are more experienced than those with fewer children and are less anxious on to initiate breastfeeding. This findings was similar was to the study conducted by Bhavana Singh, 2010 in Ghana in a university teaching hospital who reported that 62.0% of mothers responded to breast feeding within minutes and hours of delivery. Majority of the mothers gave their children irrespective of the birth order baby formular at the onset of weaning compared to other types of food used when weaning a baby. This could be due to the availability of a wide range of baby formular and the ability to prepare it easily at anytime compared o the other options which needs the mother to be at home before they are prepared. (Bhavana Singh, 2010)

ASSOCIATION BETWEEN EXCLUSIVE BREASTFEEDING AND SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE MOTHERS

There was no association between selected socio demographic variables and exclusive breastfeeding except for the religion. The study showed that younger mothers between the ages of 20-24 years were more likely to exclusively breastfeed their children compared to older mothers. Mothers within this age range are more likely to be unemployed and stay at home with their babies making exclusive breastfeeding possible. This is not in line with findings by Uchendu at al, 2010) which showed women who were relatively young (≤ 25 years) or old (≥ 36 years) had a lower EBF compared with those aged between 26 and 35 years. Also, mothers with a higher level of education were more likely to exclusively breastfeed their children compare to mothers with less education. This is because mothers with a higher level of education are more likely to know and appreciate the importance and benefits of exclusive breastfeeding. The results were however not significant. This was consistent with previous studies which reported an association between education of mothers and exclusive breastfeeding (Ogbonna et al, 2000, Mahgoub et al, 2002, Lliyasu Z. et al, 2005). The study also found that about two thirds of mothers who were Christians exclusively breastfed compared to those who were Muslims.. This findings are in line with studies by Bhavana Singh 2010 which reported that religion had a significant relationship with duration of breast feeding (18 months) with greater percentage of Christian mothers breastfeeding than Muslim mothers.

This study shows that mothers with three children were more likely to have exclusively breastfed their children compared to those with two and four/five children. This shows that exclusive breastfeeding is mainly the decision of the mother irrespective of the number of children she has. Uchendu et al., 2010 reported similar findings which said that smaller

family size had a positive effect on EBF among women with ≤ 4 children per family, who achieved higher EBFs than those with ≥ 5 children. Also studies by Ogunlesi T., 2010 in Sagamu Nigeria showed no association between parity and the practice of exclusive breastfeeding. However, it is self-evident that mothers can cope better with the demands of EBF when they have fewer babies who are well spaced out; this reduces the likelihood of 'burnout' and maternal exhaustion.

A slightly higher proportion of the third children were exclusively breastfed followed by second children and first children while the fourth and fifth children were the least. This result suggests that having more than three children presents the greatest challenge for breastfeeding every child. It also shows that increases in family size can cause a decrease exclusive breastfeeding practice.

ASSOCIATION BETWEEN EXCLUSIVE BREASTFEEDING AND CHARACTERISTICS OF THE CHILDREN

A greater proportion of the older children above the age of ten had been exclusively breastfed compared to the younger children. This could be as a result of mothers back then been more of house wives and having more time for their children. However, children under the age of five had a higher proportion that had been exclusively breastfed compared to those above the age of five. This is likely due to the increased awareness in recent times among mothers on the importance of exclusive breastfeeding.

Male children had a slightly higher proportion that were exclusively breastfed compared to females, this was however not significant. This could be as a result of males having a tendency to feed more been more active. Also in the African tradition males take precedence over females in many aspects of their live, feeding inclusive. This is in line with studies by Aye Kyi Kyi, 2000 reported that sex had no significant relationship with duration of breastfeeding (18 months).

A greater proportion of third children were exclusively breastfed compared to first and second children. This is likely due to mothers seeing the benefits of exclusive breastfeeding on their first and second child and wanting the same for their present child. However the proportion is lowest in the fourth/fifth child, this may be because mothers with more children may not be eager to keep you with the practice of exclusive breastfeeding with increase

FACTORS AFFECTING EXCLUSIVE BREASTFEEDING

After adjusting for other variables, the study showed that Christians were twice likely to have practiced exclusive breastfeeding when compared to Muslims. This is because Christians are generally believed to be more educated and patronize health facilities where they are taught the benefits of exclusive breastfeeding compared to Muslims whose religion has a great role to play in their daily activities especially among women. This findings are in line with studies by Bhavana Singh 2010 which reported that religion had a significant relationship with duration of breast feeding (18 months) with greater percentage of Christian mothers breastfeeding than Muslim mothers.

Younger children aged 0-5 years were twice less likely to have been exclusively breastfed compared to children above ten years of age. Those between 5-10 years of age were three times less likely to have been exclusively breastfed compared to those above ten years of age.

The mothers that initiated breastfeeding immediately after the birth of their children were two times less likely to have practiced exclusive breastfeeding compared to those that initiated breastfeeding some hours after the birth of their children. This may be because they may be working class mothers and initiated breastfeeding immediately considering the fact that they may soon resume work and may not be able to continue breastfeeding the children.

First children were two times less likely to have been breastfed compared to fourth/fifth children. Second and third children were two times more likely to have been exclusively breastfed compared to fourth/fifth children.

These were however not significant except for mothers who had three children who were two times more likely to have been exclusively breastfed compared to fourth/fifth children. This shows that exclusive breastfeeding is mainly the decision of the mother irrespective of the number of children she has. Previous studies show that it is most likely that women with higher parity are usually older, less educated and less likely to involve in formal employment sector. Also, women with many children are more likely to be from rural areas and follow the traditional lifestyles (Aye, 2000)

CONCLUSION

The awareness of the breastfeeding worldwide is increasing but its practice is on the average in this study. This result suggests that having more than four children presents the greatest challenge for breastfeeding every child. It also shows that increases in family size can cause a decrease exclusive breastfeeding practice. Despite the fact that previous studies found significant association between exclusively breastfeeding and some socio demographic factors, this study however only found ethnicity to be significant with exclusive breastfeeding.

RECOMMENDATION

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

- Health education should be strengthened among mothers and should cut across all social strata irrespective of level of education and class and should include information especially like properties and component of breast milk which makes it superior to artificial feeding.
- Mothers should also be educated about the importance and duration of exclusively breast feeding for first six months of lives of their babies.
- Mothers should also be taught about when to add supplementary food to breastfeeding and also how to prepare these feeds. They should also be taught the types of food which have the most nutritious value.

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APPENDIX

QUESTIONNAIRE

**ASSESSMENT OF BIRTH ORDER AND BREASTFEEDING
DURATION/INITIATION AMONG WOMEN WITH MORE THAN ONE CHILD
ATTENDING ADEOYO MATERNITY HOSPITAL, YEMETU, IBADAN.**

My name is Ayinde Abayomi. I am a postgraduate student from the Department of Epidemiology, Medical Statistics and Environmental Health, Faculty of Public Health, University of Ibadan. In partial fulfillment for the award of Master's Degree in Epidemiology, I am conducting a study to investigate the order of birth and breastfeeding initiation among women with more than one child.

Therefore, I request your participation in this study because it would contribute to achieving the objectives of the study without necessarily causing any harm of whatsoever on you.

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

SECTION A

SOCIAL DEMOGRAPHIC CHARACTERISTICS

MOTHER'S VITAL INFORMATION

1. How old were you at your last birthday? (In years) _____
2. Education?
(1) None (B) Primary (C) Secondary (D) Tertiary (E) Post Tertiary
3. Occupation _____
4. Marital status?
(1) Single (2) Married (3) Divorced (4) Widow (5) others specify
5. Ethnicity?
(1) Yoruba (2) Hausa (3) Igbo (4) Others specify
6. Religion?
(1) Christianity (2) Islam (3) Traditional (4) others specify

SECTION B

CHILD'S VITAL INFORMATION

		FIRST CHILD	SECOND CHILD	THIRD CHILD	FOURTH CHILD	FIFTH CHILD
8.	Age of your children					
9.	What are the interval between the child and the next child?					
10	What are your children sexes?	(A)MALE (B) FEMALE	(A)MALE (B) FEMALE	(A)MALE (B) FEMALE	(A)MALE (B) FEMALE	(A)MALE (B) FEMALE
11	Did your children receive any vaccination?	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW

SECTION C

MOTHER'S KNOWLEDGE ON BREASTFEEDING

12.	Is breastfeeding initiated immediately after delivery?	(A) YES () (B) NO () (C) DON'T KNOW ()
13.	How should a baby be fed?	(A) BREASTFEEDING () (B) A MIX OF BOTH BREAST AND FORMULA FEEDING () (C) FORMULA FEEDING ()
14.	Do you know what exclusive breastfeeding is	(A) YES (B) NO
15.	What are the constituents of breast milk	(A) FATS () (B) SUGAR () (C) WATER () (D) PROTEIN ()
16.	Should colostrums be given?	(A) Yes (B) No
17.	Colostrums or the first milk serves as the first immunization	(A) YES

	for the baby	(B) NO (C) DON'T KNOW
18	Do you know what complementary breastfeeding is?	(A) Yes (B) No
19.	Human breast milk is the healthiest form of milk for human babies than infant formula.	(A) YES (B) NO (C) DON'T KNOW
20.	Infant formula contains antibodies that protect against diseases, especially against diarrhea, respiratory and ear infections.	(A) YES (B) NO (C) DON'T KNOW
21.	Mixed feeding (meaning breastfeeding and giving other foods and drinks) before six months can cause diarrhea, respiratory and ear infections	(A) YES (B) NO (C) DON'T KNOW
22.	How old do you think your baby should be before you completely stop breastfeeding?	
23.	If a baby is breastfed he or she will be less likely to get diarrhoea	(A) YES (B) NO (C) DON'T KNOW
24.	What are the consequences of breastfeeding?	(A) WEIGHT LOSS () (B) BONDING () (C) REDUCED POST PARTUM BLEEDING () (D) NATURAL POSTPARTUM

		INFERTILITY () (E) OTHER SPECIFY _____
25.	What are your sources of information on breastfeeding practices?	(A) MEDIA () (B) HOSPITAL () (C) FRIENDS () (D) PARENTS () (E) OTHER SPECIFY ()

SECTION F

PREGNANCY AND DELIVERY HISTORY

		FIRST CHILD	SECOND CHILD	THIRD CHILD	FOURTH CHILD	FIFTH CHILD
26.	Where did you deliver your children?	(A) HOSPITAL (B) HOME (C) OTHERS	(A) HOSPITAL (B) HOME (C) OTHERS	(A) HOSPITAL (B) HOME (C) OTHERS	(A) HOSPITAL (B) HOME (C) OTHERS	(A) HOSPITAL (B) HOME (C) OTHERS
27.	What was the nature of your children's delivery?	(A) NORMAL (B) CAESARIAN SECTION (i.e.)	(A) NORMAL (B) CAESARIAN	(A) NORMAL (B) CAESARIAN	(A) NORMAL (B) CAESARIAN	(A) NORMAL (B) CAESARIAN

		CS) (C) OTHERS	SECTION(i.e . CS) (C) OTHERS	SECTION(i.e . CS) (C) OTHERS	SECTION(i.e . CS) (C) OTHERS	SECTION(i.e . CS) (C) OTHERS
28.	Did you see anyone for antenatal care when you were pregnant?	(A)Yes (B)No	(A)Yes (B)No	(A)Yes (B)No	(A)Yes (B)No	(A)Yes (B)No
29.	If yes, whom did you see?	(A)Health professional (B)Traditional birth attendant (C)other specify	(A)Health professional (B)Traditional birth attendant (C)other specify	(A)Health professional (B)Traditional birth attendant (C)other specify	(A)Health professional (B)Traditional birth attendant (C)other specify	(A)Health professional (B)Traditional birth attendant (C)other specify

SECTION D

BREASTFEEDING PRACTICES OF MOTHER'S

		FIRST CHILD	SECOND CHILD	THIRD CHILD	FOURTH CHILD	FIFTH CHILD
30.	Did you breastfeed your children?	(A) YES (B) NO	(A) YES (B) NO	(A) YES (B) NO	(A) YES (B) NO	(A) YES (B) NO
31.	How long after birth did you first put your children	(A)IMMEDIATELY (B) HOURS	(A)IMMEDIATELY (B) HOURS	(A)IMMEDIATELY (B) HOURS	(A)IMMEDIATELY (B) HOURS	(A)IMMEDIATELY (B) HOURS

	to the breast?	(C) DAY	(C) DAY	(C) DAY	(C) DAY	(C) DAY
32.	During the first three days after delivery, did you give your children the liquid that came out of your breast?	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW
33.	Did you give breast milk to your children on demand?	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	
34.	Do you feed your children on each breast for about 10 to 20 minutes before changing the position of the child?	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW
35.	Also, during the first six months after delivery, did you give your children any food supplement apart from breast milk?	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW	(A) YES (B) NO (C) DON'T KNOW

36.	If YES, what did you give each of your children?	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER
37.	If no to question 35, at what age (in months) did you introduce other food supplements apart from breast milk to each of your children?					
38.	What type of food supplement did you give to your children?	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER	(A) MULTI MIXED FOOD (B)PAP (C)PAP AND MILK (D)FORMULA (E) SUGAR WATER
39.	Did you serve food supplement to your children	(A) YES (B) NO (C) DON'T	(A) YES (B) NO (C) DON'T	(A) YES (B) NO (C) DON'T	(A) YES (B) NO (C) DON'T	(A) YES (B) NO (C) DON'T

	with the use of bottle feeder?	KNOW	KNOW	KNOW	KNOW	KNOW
10.	For how long did you breastfeed each of your children?					

SECTION E

MOTHERS ATTITUDE TO BREASTFEEDING

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

Circle '3' if you are "Neutral", Circle '4' if you "agree"

Circle '5' if you "strongly agree",

41.	Women should breastfeed immediately after delivery	1	2	3	4	5
42.	Women are not usually embarrassed anytime they breastfeed.	1	2	3	4	5
43.	Women do breastfeed even when they have to go to work or school.	1	2	3	4	5
44.	Women do breastfeed even when they have many household responsibilities	1	2	3	4	5
45.	Breastfeeding is carried out to ensure that the child grows	1	2	3	4	5
46.	Husbands usually encourage their wives to breastfeed	1	2	3	4	5
47.	Family members encourage women to breastfeed	1	2	3	4	5