THE KNOWLEDGE, ATTITUDE AND PRACTICE OF EXCLUSIVE BREASTFEEDING AMONG NURSING MOTHERS IN EKOSODIN COMMUNITY, OVIE NORTH EAST LOCAL GOVERNMENT AREA

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION, FACULTY OF EDUCATION, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE EDUCATION DEGREE B.Sc. (Ed.) IN HEALTH EDUCATION, UNIVERSITY OF BENIN, BENIN CITY.

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CERTIFICATION

We, the undersigned, acknowledged that this research work was carried out by OTITOCHUKWU CALEB NNAEMEKA with matriculation number EDU1904590 in the Department of Health, Safety and Environmental Education, Faculty of Education, University of Benin.

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DEDICATION

I dedicate this project to God Almighty for his guidance, provision and wisdom upon my life, for making this project successful for He is the only one that deserves all the glory.

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ABTRACT

The purpose of this study was to investigate the knowledge, attitude and practice of exclusive breastfeeding among nursing mothers in Ekosodin community, Ovie North East L.G.A, Edo State. Three research questions were formulated and evaluated in this study. Related literature was reviewed.

The descriptive survey research was adopted in this study. The target population for this study were nursing mothers in Ekosodin community, Ovie North East L.G.A located in the capital of Edo State, Nigeria. The sample size for this study was 100 respondents. The research instrument that was used to solicit the desired information from the respondent for this study was a self-structured questionnaire. The instrument was validated by the researcher's supervisor and two other experts in the department of Health, Safety and Environmental Education. The test-retest method was adopted to ascertain the reliability of the instrument which involves the administration of the instrument to twenty (20) respondents within a two week interval who were not part of the study. The questionnaires were administered to the 100 respondents and retrieved immediately after completion to ascertain consistency. Data collected were analysed using descriptive statistics of frequency counts and percentage for the research questions raised. This study revealed that although there is high level of EBF knowledge, however, few mothers have positive attitude towards EBF while the practice is generally low, and need urgent attention as exclusive breastfeeding practices are effective ways of reducing childhood morbidity and mortality.

Base on the findings of the study, it was recommended that exclusive breastfeeding education and awareness programme should be incorporated as part of both antenatal and postnatal programme for mothers to be educated and provided with accurate information about EBF, what it entails and its benefits to the infants, mothers, communities etc., and in addressing some EBF myths and misconceptions. Note that accurate information and supportive counselling are key to empowering mothers to make informed decisions about EBF. Breastfeeding-Friendly Environment (BFE) should be advocated for mothers which encourages breastfeeding. BFE entails privacy (quiet, comfortable and spacious), comfort (safe, clean, cosy area with adequate seating and hydration), supportive (access to lactation consultants, EBF resources), promotion (visible promotion of EBF through signage and literature), protection (free from discrimination and harassment). Creating a BFE empowers mothers to breastfeed confidently and comfortably, promoting a culture that values and supports breastfeeding.

CHAPTER ONE

INTRODUCTION

BACKGROUND TO THE STUDY

Breastfeeding is one of the oldest human practices that is healthy, simple and beneficial to both infant and mother. Breast milk meets the nutritional needs of the infants as it contains all the essential nutrients (carbohydrates, essential fats, proteins, minerals, and immunological factors) required for optimal growth and development, hence, an ideal meal for infants. Adewuyi, (2016) opined that breastfeeding advances motor and mental development, protect babies against diabetes (type 1 and 2), asthma, necrotizing enterocolitis, Sudden Infant Death Syndrome (SIDS) as well as obesity in babies. Breast milk is considered as the most complete nutritional source for infants because it contains the essential fats, carbohydrates, proteins, and immunological factors needed to thrive and resist infection in the formative first year of life (Okafor, 2014). According to World Health Organization (WHO) (2003), starting breastfeeding within the first hour of life can reduce the infant mortality rate by 22%. Over the years, breastfeeding has been widely acknowledged across all human races, communities, societies, and cultures worldwide as the optimal form of infant feeding. Scientific evidence supports that breastfeeding significantly contributes to an infant's survival, growth, maturation, and development. Breast milk, the first natural food for infants, contains various substances that provide protective antibodies and boost the infant's immune system. It has a substantial impact on the health of infants, particularly those with low birth weight.

Breastfeeding remains unparalleled, with human milk still considered the most natural and suitable food for children, despite industrial advancements. Exclusive breastfeeding can be defined as a practice whereby the infants receive only breast milk without mixing it with water, other liquids, tea, herbal preparations or food in the first six months of life, with the exception of vitamins, mineral supplements or medicines; for breastfeeding an infant

exclusively for the first 6 months of life carries numerous benefits such as lowered risk of gastrointestinal infection, (Agho, 2011). In resource-limited settings, where inadequate and suboptimal breastfeeding practices often lead to child malnutrition—a major contributor to over half of all child deaths—exclusive breastfeeding is considered crucial for infant survival. Indeed, of the 6.9 million under five children who were reported dead globally in 2011 (Seidu, 2018), an estimated 1 million lives could have been saved by simple and accessible practices such as exclusive breastfeeding. Consequently, the WHO and UNICEF have recommended exclusive breastfeeding for six months, followed by introduction of complementary foods and continued breastfeeding for 24 months or more (Seidu, 2018).

The World Health Organization (WHO) defines exclusive breastfeeding (EBF) as when 'an infant receives only breast milk, no other liquids or solids are given – not even water, with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines' (World Health Organization, 2016). Despite the well-known advantages, the prevalence of exclusive breastfeeding (EBF) remains low globally. The Global Nutrition Report notes that the global EBF rate was 38% between 2008 and 2012 (Global Nutrition Report, 2015). In Low and Middle-Income Countries (LMICs), it is estimated that less than 40% of infants fewer than six months are exclusively breastfed (WHO, 2016). The World Health Organization (WHO) reports that from 2015 to 2021, 48% of mothers practiced exclusive breastfeeding, meaning their infants received no other food or liquids. The WHO has set a global target to increase exclusive breastfeeding in the first six months from an estimated 38% between 2006 and 2010 to over 50% by 2025. To gauge advancement towards this objective, the WHO and UNICEF gather data on child feeding through population-based household surveys conducted every three to five years.

As per the United Nations Children's Fund (2008), it has been approximated that 1.3 million deaths could be averted annually, along with a significant reduction in childhood illnesses, if

infants were exclusively breastfed for the first six months of life. In 2018, UNICEF estimated that 78 million infants were not breastfed within the first hour of life, exposing them to increased risks of death and disease. Both WHO (2012) and the United Nations endorse breast milk as the optimal food for infants, which is why these organizations have been advocating for breastfeeding practices, especially exclusive breastfeeding (EBF), globally for decades. The promotion of breastfeeding, particularly EBF, has been a key focus of numerous public health and nutrition initiatives in recent years. The primary objective of the Baby Friendly Hospital Initiative (BFHI) was to protect the practice of breastfeeding. Launched by the WHO in 2011, the BFHI serves as a key intervention to promote and strengthen national health systems by enhancing and encouraging breastfeeding. Implemented in 138 countries, including Nigeria, the initiative has seen a significant increase in the number of designated baby-friendly hospitals worldwide, rising from 6,300 in 1995 to nearly 40,000 (WHO, 2009). Following the recommendation of BFHI 2011, exclusive breastfeeding for six months remains a widely recognized strategy for childhood survival, significantly reducing mortality rates among infants under five.

Babies and infants are really breastfed in most African countries especially Nigeria but studies has shown that only 28% of babies are exclusively breastfed and that this rate is at a declining state [Adewuyi, (2016); Ronald, (2013); Micheal, Odise and Ogbonmwan (2011)]. Exclusive breastfeeding, as defined by Hunegnaw, Gezie, and Teferra (2017), entails providing an infant solely with breast milk, either directly from the breast or expressed. While vitamin supplements, syrups, and medication can be administered, baby formula, other liquids, and solid/semi-solid foods are excluded. According to Douglas (2009), the duration of breastfeeding correlates inversely with the age at which a child begins walking. Infant's breastfed for six months exhibit higher IQ, reduced risk of childhood obesity and diabetes, and decreased likelihood of encountering mental health issues in adolescence (UNICEF,

2010; Davis, 2012). Breastfed infants are significantly more likely to survive in their early months compared to those who aren't breastfed, as stated by UNICEF in 2013. The preventive advantages of breastfeeding also contribute to lower rates of infant illness and death, as highlighted by the WHO in 2007. Additionally, research by Ukegbu and Ebenebe in 2010 suggests that breastfed children experience faster growth and better health outcomes compared to those who are not breastfed.

The promotion of exclusive breastfeeding has been undertaken by various governments and other organisations. The BFHI 2011 is a collaborative initiative by the World Alliance for Breastfeeding Action (WABA) and the United Nations Children's Fund (UNICEF) aimed at safeguarding, encouraging, and promoting exclusive breastfeeding at various stages. Additionally, WABA coordinates World Breastfeeding Week, which is celebrated annually from the 1st to the 7th of August or November.

Exclusive breastfeeding provides significant and dual benefits for both infants and mothers that extend beyond infancy. For infants, it enhances survival rates and protects against diarrhoea through two mechanisms: reducing the risk of bacterial contamination from alternative feeding methods and transferring antibodies via breast milk, thereby boosting the infant's immune system. Breastfeeding also guards against weight loss and reduces the likelihood of conditions such as asthma, overweight, diabetes, and cancer, among others. For mothers who initiate breastfeeding promptly after delivery, it aids in uterine contraction, placental expulsion, and reduction of bleeding. Additionally, breastfeeding has been observed to assist mothers in returning to their pre-pregnancy weight. Exclusive breastfeeding also delays the return of fertility, thereby reducing the maternal health risks associated with short birth intervals. In the long term, mothers who breastfeed are less likely to develop pre-menopausal and ovarian cancer. Exclusive breastfeeding (EBF) offers societal advantages by reducing family expenses on food and healthcare, minimizing absenteeism in the workforce

due to reduced maternal and infant illnesses, and fostering early mother-child bonding, according to Heckman (2011). Moreover, breastfeeding provides infants with superior nutrition, potentially enhancing immunity and lowering future healthcare costs (Agbo, 2019). Research indicates that infants who are not exclusively breastfed are at higher risk of gastrointestinal infections, even in industrialized nations (Frehiwot, 2018). Within the first two months of life, non-breastfed infants are nearly six times more likely to die from infectious diseases compared to breastfed infants, with the risk decreasing but still significant between 2 and 3 months (Niguse, 2016).

Various scholars have highlighted numerous obstacles encountered in exclusive breastfeeding, including complacency, the extensive promotion of breast milk substitutes, misconceptions about the necessity of supplementing breast milk with water, concerns regarding breastfeeding and HIV transmission, hospital procedures, the marketing of breast milk alternatives, and insufficient support for breastfeeding mothers. Additionally, many women perceive their employment or academic commitments as hindrances to exclusive breastfeeding (Adams, 2015).

Research has revealed that despite some mothers being well-informed about the manifold advantages of exclusive breastfeeding and surpassing traditional biases, they still do not adhere to exclusive breastfeeding. Therefore, this study aims to thoroughly explore and assess the understanding, perspective, and implementation of exclusive breastfeeding among nursing mothers in the Ekosodin community, Ovia North-East, Edo State.

STATEMENT OT THE PROBLEM

WHO and UNICEF (2014) recommended that infants be exclusively breastfed for six months after which adequate and safe complementary food can be introduced while breast milk continue for up to two years of age. Exclusive breastfeeding (EBF) for the first six months of life is a critical public health recommendation due to its substantial benefits for both infants

and mothers. Oche M. O., (2018) noted that although breastfeeding is universal in Nigeria with almost all babies being breastfed, but the practice of EBF is rare with only 17% children younger than six months being exclusively breastfed. This has led to an increased incidence of morbidity from infectious diseases, including otitis media, gastroenteritis and pneumonia, as well as elevated risks of childhood obesity, type 1 and 2 diabetes, leukaemia and Sudden Infant Death Syndrome (SIDS). Danso, (2017) acknowledged that exclusive breastfeeding benefits for both mother and child are universally acknowledged by health providers, global health agencies and lay people. Despite WHO 2003 recommendation that all infants should be exclusively breastfed, and much studies focused on knowledge and attitude of EBF, the health outcomes of exclusive and non-exclusive breastfeeding and husbands prospective positions in EBF decision, yet less attempt and effort however have been made at examining the factors affecting the EBF practice among the nursing mothers and despite the well-documented benefits of EBF, many mothers either do not initiate or prematurely discontinue exclusive breastfeeding and adherence to EBF remains suboptimal in many regions. This gap can be attributed to several factors, including insufficient knowledge, negative attitudes, and inappropriate practices. This research aims to investigate and thoroughly examine the knowledge, attitudes, and practices (KAP) related to exclusive breastfeeding among Ekosodin nursing mothers.

RESEARCH QUESTIONS

The following research questions were raised as a map to guide the study;

1. What is the level of knowledge among Ekosodin nursing mothers regarding the benefits and recommended duration of exclusive breastfeeding?
2. What are the prevailing attitudes towards exclusive breastfeeding among Ekosodin mothers?
3. What are the common breastfeeding practices among Ekosodin nursing mothers?

OBJECTIVE OF THE STUDY

To assess knowledge, attitudes and practices of exclusive breastfeeding among the nursing mothers in Ekosodin is the broad or general objective of the study. However, the specific objectives are to:

1. Assess Knowledge: To evaluate the level of awareness and understanding among Ekosodin nursing mothers about the benefits and guidelines of exclusive breastfeeding.
2. Examine Attitudes: To investigate the perceptions and beliefs that Ekosodin nursing mothers hold towards exclusive breastfeeding, including cultural and social influences.
3. Evaluate Practices: To document the actual breastfeeding practices and identify barriers to adherence to exclusive breastfeeding guidelines.

SIGNIFICANCE OF THE STUDY

The results of this study will be advantageous not only to nursing mothers in the Ekosodin community but also to those beyond it, as it will enhance their understanding of exclusive breastfeeding, its true significance, and the advantages it offers when practiced.

This research will provide healthcare workers and providers with valuable insights and information to educate nursing mothers about the health consequences of exclusive breastfeeding. It will also empower them to offer counselling and encouragement to promote exclusive breastfeeding practices.

The results of this study will assist governments at different levels in developing additional policies to endorse and support exclusive breastfeeding campaigns and nursing mothers. It may also lead to increased funding allocation for public awareness, sensitization, and education initiatives focused on promoting exclusive breastfeeding practices.

This study will provide insights into the specific needs and challenges faced by mothers,

allowing for the development of targeted interventions aimed at promoting and supporting exclusive breastfeeding. By addressing these factors, the study aims to contribute to improved health outcomes for both infants and mothers.

Ultimately, this study will greatly contribute to the existing body of literature concerning the understanding, significance, and obstacles related to exclusive breastfeeding.

SCOPE AND DELIMITATION OF THE STUDY

The scope of this study is the knowledge, attitude and practice of exclusive breastfeeding among nursing mothers in Ekosodin, and the benefits and challenges they face towards EBF.

This study is delimited to nursing mothers in Ekosodin community.

LIMITATION OF THE STUDY

The major limitation envisioned in this study is the reluctance and unwillingness of the nursing mothers in Ekosodin because of their predisposed knowledge, attitude and practice towards exclusive breastfeeding. But however, this can be overcome by educating and sensitizing them of the usefulness of the study to them, their society and communities globally.

OPERATIONAL DEFINITON OF TERM

Nursing mothers: A mother who is breast-feeding her baby.

Exclusive: Whole, undivided, entire, complete.

Knowledge: This refers to the information and understanding that individuals have about a specific subject.

Attitude: This represents people's feelings, beliefs, and perceptions towards a particular topic.

Practice: This encompasses the actions and behaviours that individuals actually carry out in relation to their knowledge and attitudes.

Breastfeeding: This is the process of feeding a baby with milk directly from the mother's

breast. It is a natural way to provide infants with the nutrients they need for healthy growth and development.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Literature shall be reviewed under the following sub-headings:

- Concept of Breastfeeding (BF)
- Knowledge of Breastfeeding
- Attitude towards Breastfeeding Practices
- Breastfeeding Practices
- Summary of Reviewed Literature

CONCEPT OF BREASTFEEDING

Breastfeeding is an important part of the neonatal and infant periods. Breastfeeding or lactation provides total nutritional support and promotes the emotional dependency of the baby on the breastfeeding parent. A strong emotional bond facilitates the successful prolongation of breastfeeding. Breast milk is recommended as the optimal and exclusive source of early nutrition for all infants from birth to at least six months of age. Maternal milk is crucial for development (Kalarikkal and Jennifer, 2023).

The World Health Organization (WHO) defines exclusive breastfeeding (EBF) as when an infant receives only breast milk, no other liquids or solids are given to the infant not even water, except oral rehydration solutions, drops, or syrups of vitamins, minerals or medicines (WHO, 2022). World Health Organization (WHO) recognizes exclusive breastfeeding (EBF) as a cornerstone of child survival, nutrition, development, and maternal health. The benefits of EBF are not limited to the child but extend to the mother and family. Global evidence shows the robust and consistent importance of EBF for improving child health as well as development reducing infant mortality, infant morbidity, and maternal benefits include but are not limited to reduction of the odds for postpartum haemorrhage, type II diabetes mellitus, ovarian cancer, breast cancer and maternal sensitivity (Wataka et al.,2021).

The World Health Assembly (WHA) has set a global target to increase the rate of EBF for infants aged 0-6 months up to at least 50% in 2012-2025. The adherence to these guidelines varies globally as only 38% of infants are exclusively breastfed for the first 6 months of life. High-income countries such as the United States (19%), United Kingdom (1%), and Australia (15%) have shorter breastfeeding duration than do low-income and middle income countries. In low-income and middle-income countries, only 37% of infants younger than six months are exclusively breastfed (Dukuzumuremyi et al., 2020).

Breastfeeding is the foundation of life and is recognized as the best way of feeding infants. Breast milk provides the basic building block for optimal growth, and development and contains the right amount of nutrients for growth that are provide up to half or more of a child's nutritional needs during the second half of the first year. It also provides up to one-third of a child's nutritional needs during the second year of life (Kabwire, 2023). Women that breastfeed also have a reduced risk of breast and ovarian cancers (WHO, 2022). Breastfeeding is the most cost-effective public health strategy to decrease infant/child morbidity and mortality. It can increase a child's tolerance to all preventive therapies and is estimated to save 1.4 million lives in developing countries. Breastfed babies have a six-fold higher chance of survival in the first six months than non-breastfed babies. Acute respiratory infection and diarrhoea are two big infant killers that are reduced by breast milk. The potential impact of appropriate breastfeeding practices is particularly important in developing countries with high disease burdens and limited access to clean water and sanitation (Temoirokomalani et al., 2021).

Breast milk is considered the primary source of nutrition for new born infants. It is produced by the mammary glands in the breast of human females and comprises fats, proteins, carbohydrates, and a varying composition of minerals and vitamins. The composition of breast milk is important in the healthy growth and development of the child. Breast milk also

protects children from various infections, reduces the risk of obesity, endocrine diseases, and help children's mental and psychomotor development (Couto et al., 2020). Breast milk is more than 80% water, especially the first milk that comes with each feed. Therefore, whenever the mother feels her baby is thirsty she can breastfeed him or her. This will satisfy the bay's thirst, and continue to protect the baby from infections, and help the baby to continue to grow well. Breast milk has a unique composition containing antimicrobial, anti-inflammatory, immune-regulating agents and leukocytes. This unique composition helps the growth of the body's immune system in children (Meek and Noble, 2022). The nutrients in breast milk are diverse and specific to each mother.

Human breast milk (HBM) is an essential source of nutrients crucial for the growth and development of infants. It provides components that support both physical development and the formation of immunity. HBM is also known to contain a unique micro biome, including beneficial and potentially probiotic bacteria, that aids in infant gut colonization. It is specifically tailored to meet the nutritional needs of new-borns, with its composition changing to suit the baby's developmental stage. Compared to formula milk, which is harder for infants to digest, breast milk offers ideal nutrition and contains colostrum rich in antibodies. These antibodies, particularly SigA, offer local protection on the gastrointestinal tract, reducing the risk of infections. Breastfeeding also appears to protect against precocious puberty, likely due to its role in preventing obesity—a known risk factor for early puberty. This protective association is linked to levels of insulin-like growth factor (IGF)-1 and leptin. Higher IGF-1 levels are observed in infants fed with formula milk and those who gain weight rapidly in their early months (English et al., 2020; Felício et al., 2021).

Breast milk is an extraordinary substance specifically designed to nourish infants. It offers an ideal mix of nutrients, antibodies, and other bioactive compounds that are vital for a baby's growth, development, and immune system. Beyond nutrition, breastfeeding also creates a

unique bond between mother and child through direct contact and feeding interactions, which enhances emotional and psychological well-being for both. The composition of breast milk can change during a feeding session and throughout different stages of lactation to align with the evolving needs of the growing baby. Moreover, breast milk contains hormones and enzymes that support digestion and overall development. Human breast milk (HBM) is a highly intricate biological fluid, containing essential macronutrients like lipids, proteins, carbohydrates, and vitamins, all crucial for an infant's healthy growth and development. These macronutrients are emulsified in an aqueous milk matrix, precisely balanced to meet the specific nutritional needs of a developing child (Hyötyläinen et al 2024). Breast milk from healthy, well-nourished women is expected to supply sufficient amounts and concentrations of most nutrients for optimal infant growth.

Breast milk contains a diverse range of micronutrients and macronutrients, contributing to its high nutritional value for new-borns. Besides its nutritional content, breast milk includes non-nutritional components that offer immune protection, support the infant’s immune system development, and perform various regulatory functions. Bioactive cytokines and chemokine, such as interleukins and interferon, are present in breast milk and can pass through the infant's intestinal wall, aiding in thymic development. Unlike artificial substitutes, which have a fixed composition, breast milk's constituents vary significantly within a single feeding session, throughout the day, and over the entire lactation period. Human milk composition also differs among mothers and populations due to various maternal and environmental factors, as well as the method of milk expression and feeding patterns. Understanding breast milk's composition is crucial to maximize the benefits of breastfeeding, particularly for vulnerable infants, and to inform discussions on milk storage and pasteurization (Senem Alkan Özdemir, Özlem Naciye Şahin, and Despina D. Briana, 2023). The increased nutritional needs of these infants can be met by consuming more breast milk (Awolabi et al,

2024).

Breast milk is considered the primary source of nutrition for new-borns, meeting all their nutritional requirements during the first few months of life. It is safe, clean, and contains water, nutrients, and antibodies in the right proportions to support the growth and development of the child. Exclusive breastfeeding (EBF) involves giving only breast milk to a child for the first six months, except for medically necessary drugs or supplements. The World Health Organization (WHO) recommends EBF because it is cost-effective and significantly reduces the risk of diarrhoea, malnutrition, and morbidity and mortality in children under five. Breastfeeding benefits not only the child's health but also maternal health, while offering social and economic advantages (Ipinnimo et al, 2024).

MACRONUTRIENT COMPONENTS OF HUMAN BREAST MILK

The macronutrients that make up the solid components of human breast milk (HBM) include carbohydrates, proteins, and fats, present in proportions of 7% (60–70 g/L), 1% (8–10 g/L), and 3.8% (35–40 g/L), respectively. The composition of HBM can vary based on factors such as the mother's diet, mammary gland physiology, maternal health, and various environmental influences. Additionally, it may differ depending on whether the milk is from a preterm birth, whether it is foremilk or hind milk, and whether it is colostrum, transitional milk, or mature milk. Processing conditions like storage, pasteurization, and the type of containers used can also affect its composition (S. Y Kim and D. Y. Yi, 2020).

CARBOHYDRATES:

Carbohydrates are the most abundant non-aqueous component in milk, making up about 7% of total HM volume. Consisting of 3 chemical groups (monosaccharaides, disaccharides, and oligosaccharides which is the indigestible carbohydrate), only 4.6 to 6.0% of HM carbohydrates are digestible. Digestible carbohydrates in HM predominantly consist of lactose and glucose and are an important source of energy. Maternal diet appears to have

minimal influence on HM carbohydrate composition (Brockway et al, 2024).

FAT:

Fat accounts for about 3 to 4% of total HM volume. Total lipid content is positively associated with maternal BMI and can be affected by diet. Lipid content also varies depending on the time of day as well as the timing within each breastfeeding session, with foremilk having significantly lower total lipid content than hind milk. Human milk fat composition, consisting primarily of triglycerides, free FAs, and cholesterol, is highly variable among females and associated with dietary, genetic, socio-demographic, and environmental factors. Fat content is important for brain growth and development, and certain FAs (FA) are associated with neurodevelopment and cardiovascular health (Brockway et al, 2024).

PROTEIN:

Proteins make up 1% of total HM volume. Thousands of proteins are found in HM, and the most abundant can be classified into 3 categories: casein, whey, and mucins. Human milk protein consists of about 60% whey and 40% casein, whereas low abundance mucins are present as milk fat globule membranes. Proteins found in HM are important for nutritive growth, usually in the form of casein proteins and amino acids. Human milk can be analysed for crude or true protein (Brockway et al, 2024).

MICRONUTRIENT COMPONENTS OF THE HUMAN BREAST MILK

Breast milk is a highly nutritious fluid that provides essential micronutrients necessary for the growth and development of infants. These micronutrients can be categorized into vitamins and minerals.

VITAMINS:

- **Vitamin A:** Important for vision, immune function, and skin health.

- **Vitamin D:** Crucial for bone health and immune function. Its levels can vary based on maternal vitamin D status and sunlight exposure.
- **Vitamin E:** Acts as an antioxidant, protecting cells from damage.
- **Vitamin K:** Essential for blood clotting and bone health.
- **Vitamin C:** Supports the immune system and enhances iron absorption.
- **Vitamin B Complex:** Include B1 (thiamine), B2 (riboflavin), B3 (niacin), B6, B12, and folate, which are vital for energy production, brain function, and cell metabolism.

MINERALS:

- **Calcium:** Necessary for bone and teeth formation.
- **Iron:** Critical for red blood cell production and preventing anemia.
- **Zinc:** Important for growth, immune function, and wound healing.
- **Magnesium:** Involved in numerous biochemical reactions in the body, including energy production and bone development.
- **Phosphorus:** Essential for the formation of bones and teeth, and involved in energy metabolism.
- **Selenium:** Acts as an antioxidant and supports the immune system.

TRACE ELEMENTS:

- **Copper:** Plays a role in iron metabolism and the formation of red blood cells.
- **Manganese:** Important for bone formation and metabolism.
- **Iodine:** Essential for thyroid function and cognitive development.

Vitamin D status at birth is positively related to the length of gestation and maternal vitamin D status. For both iron and vitamin D the concentrations in breast milk are low (Awolabi et al, 2024). Breast milk's composition adapts to the infant's needs, particularly in the early stages of life, providing a tailored supply of nutrients that support optimal growth and

immune protection. The mother's diet, health, and nutritional status can influence the levels of certain micronutrients in her breast milk, making it important for breastfeeding mothers to maintain a balanced and nutrient-rich diet.

BIOACTIVE COMPONENTS:

Beyond providing a custom-made source of micronutrients and macronutrients, human milk (HM) contains a multitude of other bioactive factors. Together, these components create a biologically active system to meet the health and nutritional needs of infants and young children. HM bioactive can have a prolonged impact on the infant micro biome, growth and development, as well as immune function (S. M. Reyes et al, 2024). Bioactive components of HM are defined as components that "affect biological processes or substrates and hence have an impact on body function or condition and ultimately health". Bioactive components in HM include lactoferrin, growth factors, hormones, nucleotides, human milk oligosaccharides (HMOs), immunoglobulin, and cytokines.

Hormones enter milk from the maternal bloodstream and are produced endogenously in the maternal epithelium of the mammary gland. Insulin, ghrelin, adiponectin, and lepton are commonly examined for their appetite-regulating functions and are among the most extensively studied bioactive components in HM in relation to infant growth.

HMOs (Human Milk Oligosaccharides) are the third most abundant component in HM. HMOs are complex carbohydrates that are indigestible to the infant yet serve as prebiotics for commensal bacteria in the infant's gut, thus impacting the infant micro biome. HMOs can also have anti-adhesive functions, sequester pathogens, and directly interact with the gut epithelium and immune cells. Furthermore, HMOs are minimally absorbed into the infant circulation where they can have systemic effects.

HM contains multiple components that impact the infant's immune system. These include cytokines, growth factors, lactoferrin, lysozyme, and immunoglobulin. Although each of

these factors has a different pathway of impact, they all influence the development and function of the immune system and help provide immunity for the breastfed infant during a critical period when the infant's own immune system is developing. Although they are best known for their immunomodulation properties, it is conceivable that these factors could also influence infant growth—either by supporting optimal immune health or via immune-independent mechanisms such as energy spared by preventing illness in the infant (Yeres et al, 2024).

TYPES OF BREAST MILK

Breast milk is produced naturally by women and provides basic nutrition for a baby during the first several months of life. Human breast milk is made to order for new born babies and provides the specific nutrients new born babies needs to grow, both in size and maturity.

Breast milk has three different and distinct stages: colostrum, transitional milk, and mature milk.

Colostrum: is the first stage of breast milk. It occurs during pregnancy and lasts for several days after the birth of the baby. It is either yellowish or creamy in color. It is also much thicker than the milk that is produced later in breastfeeding. Colostrum is high in protein, fat-soluble vitamins, minerals, and immunoglobulin. Immunoglobulin are antibodies that pass from the mother to the baby and provide passive immunity for the baby. Passive immunity protects the baby from a wide variety of bacterial and viral illnesses. Two to four days after birth, colostrum will be replaced by transitional milk. The colostrum is the first immunization a child receives, laced with immunoglobulin that protects the new born, creates a mild laxative effect, expels meconium and helps check the build-up of bilirubin (Elyas, et al., 2017).

Transitional milk: occurs after colostrum and lasts for approximately two weeks. The content of transitional milk includes high levels of fat, lactose, and water-soluble vitamins. It

contains more calories than colostrum.

Mature milk: is the final milk that is produced. 90% of it is water, which is necessary to keep your infant hydrated. The other 10% is comprised of carbohydrates, proteins, and fats which are necessary for both growth and energy. There are two types of mature milk:

Fore-milk: This type of milk is found during the beginning of the feeding and contains water, vitamins, and protein.

Hind-milk: This type of milk occurs after the initial release of milk. It contains higher levels of fat and is necessary for weight gain.

Other myths about breastfeeding are; Colostrum should be discarded, white milk should precede suckling a baby, giving rice water to sick infants, breast milk is insufficient and other foods and milk needed, breast milk too thin and it promotes allergies, traditional teas & medicine as supplements, mothers avoiding certain foods or liquids during breastfeeding, ill or pregnant mother not breastfeed, breastfeeding mother abstain from sex because the milk will go bad (Koura, 2019; Eram, 2017; UNICEF, 2010). Colostrum, which is the first breast milk, is pure, nutritious and rich in antibodies that shield new-borns from illnesses. It is the first immunization a child receives, laced with immunoglobulin that protects the new born, creates a mild laxative effect, expels meconium and helps check the build-up of bilirubin. Breastfeeding aids proper mandible, dental and speech development, enhances mothers' well-being, child -spacing, shrinks ovarian and breast cancer risks, boosts household and national resources secures feeding and promotes environmental safety (Ogunlaja et al, 2024).

KNOWLEDGE OF BREASTFEEDING

Understanding breastfeeding among women is crucial for child health. Research indicates that women of reproductive age, especially those emphasizing Exclusive Breastfeeding (EBF), often lack adequate knowledge. This knowledge gap varies significantly across different regions in Nigeria, influencing attitudes and behaviours that do not promote EBF.

Evaluating the understanding, attitudes, and practices of EBF among mothers in regions with low EBF rates could provide insights for interventions aimed at improving these practices. In Nigeria, studies demonstrate that EBF reduces infant malnutrition and mortality rates (Abdulwali et al., 2023).

A recent study by Ogunlaja et al. (2024) investigated the awareness and adherence to exclusive breastfeeding among mothers in Ogbomosho. The findings revealed that a significant majority (98.54%) of mothers were aware of the benefits of breastfeeding. Approximately 69.6% of the mothers practiced exclusive breastfeeding for six months, while 44.4% initiated breastfeeding within one hour after delivery. In comparison, the National Demographic and Health Survey (NDHS) 2013 in Nigeria reported that nearly 70% of children aged 0-23 months were predominantly breastfed, but only 17% of infants fewer than six months were exclusively breastfed. These statistics underscore the widespread issue of infant malnutrition and mortality in developing countries, primarily attributable to suboptimal infant feeding practices (Osiyosola, Tolulope, and Samson, 2018).

The World Health Organization (WHO) advises that infants should receive only breast milk from birth to six months old. Despite a global and Sub-Saharan African increase in exclusive breastfeeding rates, Nigeria has seen a continuous decline. According to UNICEF's report in 2008, the Nigerian Demographic and Health Survey indicated a breastfeeding rate of 13%, down from 17% in 2003. Nigeria faces significant nutritional challenges, with indicators showing 14% low birth weight, 13% exclusive breastfeeding, 14% stunting, and 27% underweight (Ogbonaya and Aminu, 2013).

As of 2019, global exclusive breastfeeding rates for infants aged 0 to 6 months stood at 50.7%. In Africa, studies show varying levels of knowledge about the recommended duration of exclusive breastfeeding: 33.6% in Egypt, 96% in Kenya, 74% in Ghana, and 34.7% in Ethiopia. Nigeria lags behind other African countries with a low exclusive breastfeeding rate

of 17%, compared to Ghana (53.4%), Republic of Benin (43.1%), and Cameroon (23.5%). According to Gayawan et al., rates of exclusive breastfeeding are particularly low in Jigawa, Katsina, and Yobe states in Nigeria. For instance, neighbouring Kano state reported only 18.6% of mothers exclusively breastfeeding, alongside a high underweight rate of 58% among children under 5 years old (Abdulwali et al., 2023).

A study by Mbwana (24) focusing on exclusive breastfeeding revealed that 57.5% of pregnant women understood that babies should breastfeed on demand. However, only 28.8% knew that breast milk alone is sufficient for infants for the first six months, and 41.3% believed introducing solid foods at 4-5 months is appropriate. Nearly all participants (93.8%) were aware that breastfeeding should continue for up to two years. Regarding practices, 52.5% of the women believed it's appropriate to give water to babies after each breastfeed.

Another study on knowledge, attitudes, and practices related to exclusive breastfeeding among nursing mothers found that only 34.7% of respondents correctly stated that exclusive breastfeeding should continue for up to six months. A quarter of the mothers knew that exclusive breastfeeding for six months helps protect against diarrhoea (27.3%), and 32% believed exclusive breastfeeding could serve as a form of contraception, while 16.7% did not share this view (Niguse, 2016).

Nigeria experiences an annual economic loss exceeding $21 billion and loses more than 103,742 children annually due to inadequate breastfeeding (Obinna, 2017). Research indicates that insufficient understanding of exclusive breastfeeding (EBF) correlates with negative attitudes and low overall breastfeeding rates (Nwachukwu and Nwachukwu, 2007; Ella, 2016). Early mother-child skin-to-skin contact has been found to increase breastfeeding continuation up to one month and ideally for at least four months (Moore et al., 2012), significantly promoting early breastfeeding initiation (Singh et al., 2017). Breastfeeding also acts as a natural contraceptive by delaying a mother's menstrual cycle during the first six

months of breastfeeding around the clock (Hossain et al., 2018; Pirincci, Tasdemir, and Oguzoncul, 2016; Elyas et al., 2017). Literature consistently underscores that knowledge about breastfeeding is a key determinant in promoting exclusive breastfeeding practices (Ikegwu et al., 2021)..

A study carried out by Lucen et al., 2012 showed that, overall the level of knowledge regarding breastfeeding is very poor (88%) among the study subjects. Most of the mothers have very poor knowledge regarding advantages of exclusive breastfeeding (89%) and breastfeeding (100%). In contrast, a majority have good knowledge on duration of exclusive breastfeeding (74%) and breastfeeding (66%). In this study, a large proportion of the mothers (87%) have poor knowledge on the advantages of colostrum feeding. A similar study showed that only (10%) of the new-borns received colostrum as the first food. The present study has also shown that almost all (100%) of the mothers have poor knowledge on advantages of breastfeeding. In contrast, another study done among Indian mothers showed average knowledge (53.3%) about advantages of breastfeeding. Knowledge of advantages of exclusive breastfeeding is also very poor (89.5%) in our study.

Studies have shown that exclusive breastfeeding as well as breastfeeding lower the risk of chronic health conditions later in life such as obesity, high cholesterol, high blood pressure, diabetes, childhood asthma and leukaemia (UNICEF, 2015). This feeding method of infants is the most preventive, natural, pure and economical prevailing both in developed and developing countries. However, mothers' age, residential locations, educational levels, maternal health status and occupation are affecting the early initiation of breastfeeding which is the basis of EBF among mothers. Breastfeeding aids proper mandible, dental and speech development (Okogba, 2017), enhances mothers' well-being, child - spacing, shrinks ovarian and breast cancer risks, boosts household and national resources, secures feeding and promotes environmental safety (WHO, 2018).

Improper knowledge is a major cause of the onset of malnutrition in young children. Children who are not breastfed appropriately have repeated infections, grow slowly, and are almost six times more likely to die by the age of one month compared to children who receive at least some breast milk.

In the study by Akinyinka et al. (2016), it was found that the majority of mothers (58.2%) had at least a secondary education, with only 3.6% having no formal education. This is similar to a study conducted in Ekiti State, where 5% of respondents had not attended school, although most in that study had a tertiary education. Most of the mothers in Akinyinka et al.'s study were housewives (36.4%), and nearly half reported no income (45.9%). Among those who did report an income, the majority earned between ₦6000 and ₦20,000 (US $40 - $133) per month, indicating a very low income level among these women in the barracks. This finding aligns with the Ekiti State study, where 58% of mothers had a similar income range. In contrast, a study in Edo State revealed that 40% of mothers had no formal education and 61% earned less than ₦5000 per month. Despite differences in specific findings, the overall trend of little or no income among these women highlights the generally low economic status of women in the country, a common issue in low-income countries.

Approximately 82.3% of mothers in the study were familiar with exclusive breastfeeding, a significantly higher percentage than in a study from Igbo-Ora, Oyo State, where fewer than half of the mothers were aware of it. This discrepancy may be attributed to Igbo-Ora being a rural area, in contrast to the more urban Military Barracks. Additionally, a majority of mothers in the current study (88.6%) knew that a baby should not receive any feeds other than breast milk initially. In comparison, a study in Tanzania found that 86% of rural mothers and 65% of urban mothers believed that infants should be given water immediately after birth. This practice in Tanzania might be rooted in cultural traditions, which were less prominent in the culturally diverse and urban Navy Town. Mothers there likely received

repeated health education on the subject at the local hospital. These factors might explain why the mothers in the current study had better knowledge compared to those in the Tanzanian study, despite both studies being conducted in urban settings.

In the study, only 56.5% of mothers reported initiating breastfeeding within an hour of delivery. This rate is higher compared to other regions in Nigeria but lower than in some countries, such as the United States, where 73% of mothers initiate breastfeeding within the first hour, and Turkey, where the rate is 62%. These differences may be attributed to the more advanced healthcare facilities in those countries. For example, a study in Sokoto State, Nigeria, found that only 8% of mothers initiated breastfeeding within an hour of birth. Similarly low rates were observed in South-western Nigeria (Sagamu) with 17%, and Ilesha, Oyo State, with 37.4% of mother's breastfeeding within the first hour, according to local studies. The study's timely initiation rate is also higher than the 38% reported by the United Nations Children's Fund (UNICEF). These findings suggest that further research is needed to understand the factors contributing to higher breastfeeding initiation rates in this study, which could help improve rates across Nigeria.

In the study, 24.1% of mothers provided their infants with pre-lacteal feeds, most commonly plain water. A study in India reported that only 15% of mothers gave pre-lacteal feeds, which might be due to cultural differences between the populations. Conversely, a study in Tanzania found a higher prevalence, with most mothers giving pre-lacteal feeds. In Nigeria, a study from Ilesha reported that 36.6% of infants received pre-lacteal feeds, a higher rate than this study's finding, possibly due to varying cultural practices within the country.

According to the 2013 NDHS, the exclusive breastfeeding rate for the first six months in Nigeria was 17%, significantly lower than the 74.1% exclusive breastfeeding rate observed in this study, though closer to the 41.4% who breastfed exclusively for the recommended six months. Exclusive breastfeeding rates vary across Nigeria and globally, with figures as high

as 78.7% in Sokoto State, 91% in Ekiti State, 61% in Ile-Ife, 21.4% in Ilesha, 22.9% in Calabar, and 20% in Edo State.

The disparity in prevalence is likely due to different cultural practices and levels of access to health education within these communities in the same country. In Africa, a study in Kenya reported an exclusive breastfeeding rate of 34%, while in Mozambique it was 37%. Rates from neighbouring African countries include 53.4% in Ghana, 43.1% in Benin, and 23.5% in Cameroon. In Northern Africa, Egypt and Eritrea reported high exclusive breastfeeding rates of 78% and 76% respectively, similar to the rates found in this study. In Turkey, a community-based study found that 50.6% of mothers were exclusively breastfeeding, though another Turkish study reported a lower rate of 22.4%. These large disparities in exclusive breastfeeding rates are not unique to Nigeria. The findings demonstrate that achieving high exclusive breastfeeding rates is possible and highlight the need for countries like Nigeria to disseminate appropriate health education widely and provide support structures, such as crèches, to encourage women to exclusively breastfeed their infants for the first six months.

In this study, the prevalence of bottle feeding was 30.9%, but knowledge about its disadvantages was poor. This is concerning as it indicates that these women were practicing bottle feeding without adequate understanding of its drawbacks. In contrast, a survey in Italy among families from the Maghreb region of Northern Africa reported a bottle feeding prevalence of 43.7%. Even higher rates were found in Edo State, Nigeria, where 70.4% of rural women combined bottle feeding with breastfeeding. In Igbo-Ora, Southwest Nigeria, approximately 30.2% of infants were bottle-fed, similar to this study's findings.

Factors significantly associated with knowledge about breastfeeding practices included the mother's education level, marital status, type of marriage, occupation, and child's age. Knowledge was notably linked to certain breastfeeding practices, with a larger proportion of those giving pre-lacteal feeds and using feeding bottles having only fair breastfeeding

knowledge. Alarmingly, only 5.9% of those using feeding bottles had good knowledge about breastfeeding, highlighting a potential broader issue of inadequate breastfeeding education in the community (Akinyinka et al., 2016).

According to Cascone et al. (2019), one of the main findings of their study is that most women possess adequate knowledge about exclusive breastfeeding and its benefits for both the child and the mother. Nearly all participants were aware that breast milk reduces the baby's risk of infectious diseases, and about two-thirds knew that breastfeeding lowers the risk of certain non-communicable diseases, such as asthma, obesity, and diabetes.

Ekeleme et al. (2021) found that the majority (97%) of mothers had heard about exclusive breastfeeding, with 92% understanding its correct meaning. About 81% knew that breastfeeding should begin within 30 minutes to an hour after delivery. Additionally, 90% of the mothers were aware that exclusive breastfeeding should continue for six months, and over half could name at least two benefits of exclusive breastfeeding. These findings indicate a high level of knowledge about exclusive breastfeeding among the study participants. This high knowledge level aligns with a similar study conducted in Accra, Ghana, but contrasts with a study from Gwale, Kano, where only a third of respondents had good knowledge of exclusive breastfeeding. Similarly, Freed et al. found that only about half of their respondents had good knowledge of exclusive breastfeeding.

Sokan-adeaga et al. (2023) assessed the opinions and current knowledge of 120 nursing mothers who visited the Isheri Olofin Primary Health Centre (IOPHC) in Lagos State, Nigeria. The study found that a large percentage of respondents were well-informed about exclusive breastfeeding (EBF) and had generally favourable attitudes toward it. However, the actual practice of EBF was below the World Health Organization's (WHO) recommendations. The study indicated that individuals are more likely to practice EBF if they possess good knowledge and a positive attitude toward it. Additionally, there was a strong correlation

between mothers' attitudes, knowledge, and their practice of EBF.

The results indicated that respondents had high levels of breastfeeding knowledge, consistent with findings from other regions in Nigeria, including Owerri, Anambra, Plateau, North-Central, and Western Nigeria. This high level of awareness about healthy breastfeeding and exclusive breastfeeding (EBF) among respondents can be attributed to the baby-friendly initiative program at the study location. Most respondents learned about EBF from healthcare facilities. Similarly, several studies have shown that baby-friendly hospitals are crucial for disseminating breastfeeding information. According to Bartington et al. (2006), mothers who deliver at baby-friendly medical facilities are significantly more likely to initiate breastfeeding compared to those who give birth elsewhere. The majority of respondents in this survey agreed with statements consistent with previous studies on breastfeeding knowledge: breastfeeding strengthens the mother-child bond, regular breastfeeding from infancy can reduce the incidence of jaundice and prevent childhood diseases, and breastfed infants exhibit different growth patterns from formula-fed babies. Thus, respondents primarily viewed EBF as beneficial for mother-child relationships, providing immunity against childhood diseases, promoting healthier infant development compared to formula feeding, and being naturally available and free of charge (Sokan-adeaga et al., 2023).

ATTITUDE OF MOTHERS TOWARDS EXCLUSIVE BREASTFEEDING

In regards to mothers' attitudes towards exclusive breastfeeding (EBF), a significant number (70.7%) believe that EBF requires more effort compared to using infant formula. Additionally, a majority (78.0%) think that babies should receive supplementary fluids like water and honey during EBF. A previous study in Nigeria found that 68.1% of respondents agreed that working mothers should not exclusively breastfeed, and 62% supported introducing additional foods soon after birth to prevent hunger. A recent systematic review highlighted that only 23% of mothers believed EBF alone was sufficient for up to six months,

with 45.8% considering formula feeding more convenient than breastfeeding. Despite the acknowledged benefits of EBF, these attitudes hinder its adoption in Nigeria. Factors influencing EBF include mothers' knowledge level, occupation, previous childbirth experience, and mode of delivery. Geographic disparities, traditional beliefs, delivery location, maternal attitudes, and healthcare practices also contribute to suboptimal EBF rates in the country (Abdulwali et al., 2023).

Bednarek et al. (2023) emphasized that lactation education should commence during mid-pregnancy, alongside information on childbirth, the postpartum period, and parenting. They noted that women's attitudes toward breastfeeding are often established well before pregnancy, influenced by their upbringing, observations during childhood, the support of their life partner, and prior knowledge of breastfeeding benefits. The lactation period poses challenges, underscoring the critical role of social support from family, friends, and medical professionals in adapting to this new phase. Health policy should prioritize fostering positive attitudes towards breastfeeding and teaching effective breastfeeding techniques, with hospital and primary healthcare staff playing a crucial role in supporting lactating women through informational, practical, and emotional means (Bednarek et al., 2023).

Women's stance on breastfeeding significantly influences their choice of feeding method for their children. The Iowa Infant Feeding Attitude Scale questionnaire gauges attitudes toward infant feeding methods, with higher scores indicating a favourable outlook on breastfeeding. The findings indicate that overall, women have a neutral attitude toward breastfeeding. In contrast, Greek women demonstrated more positive attitudes, as reflected by their higher scores on the scale.

Professional support and counselling from lactation experts play a crucial role in initiating and sustaining breastfeeding while fostering positive attitudes toward it, as emphasized by Pérez-Escamilla in her review of research across 19 countries focusing on the "10 Steps to

Successful Breastfeeding". Effective breastfeeding interventions often combine individual and group support. Mothers value face-to-face interactions, appreciating the opportunity to discuss breastfeeding as well as other relevant topics. They respond positively to practical and personalized breastfeeding guidance, particularly from experienced professionals in the field. The social connection and support provided by competent healthcare providers are highly valued by mothers, who appreciate the availability of assistance without feeling overly pressured by intervention organizers (Bednarek et al., 2023).

The research analysis presented indicates that Polish mothers, as observed in our own study, do not exhibit as positive attitudes toward breastfeeding compared to women in other countries. Numerous authors in global literature suggest that mothers with positive attitudes toward breastfeeding tend to possess greater knowledge about it, view it as beneficial for health, initiate breastfeeding immediately after childbirth, and breastfeed for longer durations than those with less favourable attitudes. Our own study's findings revealed that a majority of respondents displayed extensive knowledge and positive views regarding breastfeeding. In conclusion, promoting breastfeeding as the optimal method for infant feeding significantly shapes mothers' opinions and attitudes toward it. Many factors influencing breastfeeding duration stem from insufficient information about its benefits and challenges. Ultimately, the decision to breastfeed predominantly rests with the woman, underscoring the importance of receiving reliable lactation knowledge from healthcare professionals, a need confirmed by both our research and that of other scholars (Bednarek et al., 2023).

Attitudes and confidence among women can predict how long they exclusively breastfeed, and longer breastfeeding durations offer greater benefits for both mother and child. Conversely, various barriers related to the mother, infant, or breastfeeding technique can impede successful breastfeeding. Examples include breast and nipple conditions, lactation challenges, low self-efficacy, and inadequate social support. Concerns about breastfeeding in

public and unsupportive childcare environments also contribute to less favourable breastfeeding practices. Maternal factors such as fatigue, stress, and emotional issues further hinder exclusive breastfeeding. Employment status is significant; women planning full-time work after childbirth are less likely to initiate breastfeeding compared to those planning part-time work, and many cease breastfeeding around the time they return to work. Breastfeeding initiation and duration tend to be lower among low-income and less educated women. Infants facing physical health issues or systemic illnesses may also struggle with breastfeeding. These challenges often lead to difficulties initiating breastfeeding or maintaining it over time (Yasser et al., 2023).

Many infants today do not fully benefit from breastfeeding, putting them at unnecessary risk of illness and death, while most healthcare providers lack the necessary skills to assist mothers in improving their feeding practices. This issue encompasses various attitudinal barriers that hinder exclusive breastfeeding. A significant portion of mothers in our study responded negatively to questions addressing their attitudes toward breastfeeding, with 55.8% expressing unfavourable views and 42.7% remaining neutral. In contrast, a study in Riyadh conducted by Saied et al. found that the majority (89.4%) of mothers held a neutral attitude toward breastfeeding. The higher likelihood of negative attitudes toward breastfeeding in our study may be linked to the fact that a majority (61.8%) of our participants were employed mothers, whereas in Riyadh, 63.1% of mothers were homemakers.

Our research findings indicate that mothers under the age of 40 were more likely to have a negative attitude toward breastfeeding. Similarly, Laanterä et al. discovered that women under 27 tended not to initiate breastfeeding. Contrarily, Saudi mothers did not differ significantly in their breastfeeding attitudes compared to peers of other nationalities, unlike the findings when Saudis were compared with Egyptian mothers, where a much smaller percentage of Saudi mothers (14%) expressed negativity toward exclusive breastfeeding

compared to Egyptian mothers (65%).

Mothers residing in their workplace accommodation showed a more positive attitude (53.3%) toward breastfeeding, likely due to the convenience of proximity, a result consistent with findings from other studies. A pooled analysis of extensive population-based data from Nepal demonstrated that higher maternal education consistently correlated with earlier initiation of breastfeeding. In our study, only mothers with postgraduate education and those working in academia showed a neutral rather than negative attitude toward breastfeeding (Yasser et al., 2023).

Several factors influence a woman's decision to start and continue breastfeeding, including age, education, employment status, parity, support sources, attitudes, and type of delivery. Vaginal delivery is associated with higher rates of breastfeeding initiation and continuation during hospitalization compared to caesarean delivery. Younger maternal age, higher household income, higher education levels, and supportive paternal involvement are linked with positive attitudes toward breastfeeding. Paternal attitudes also play a significant role; if a father is unsupportive of breastfeeding, mothers are more likely to opt for formula feeding or breastfeed for a shorter duration.

While many mothers plan for breastfeeding during prenatal consultations, postpartum spousal opposition can impact maternal attitudes toward breastfeeding and increase the likelihood of formula feeding. Clinically, many mothers contact healthcare providers about discontinuing breastfeeding within the first two months postpartum, often coinciding with their return to work, which can influence their decision to stop breastfeeding (Han et al., 2023).

According to Hans et al. (2023), both mothers and spouses in their study demonstrated generally low attitudes toward breastfeeding. Our findings revealed that 33.0% of mothers were exclusively breastfeeding at two months postpartum, which is below the recommended rate by the World Health Organization. Lower rates of exclusive breastfeeding among

mothers may be linked to lower scores on the Iowa Infant Feeding Attitude Scale (IIFAS) for both mothers and their spouses.

Previous research has consistently shown that attitudes measured by the IIFAS predict the duration and exclusivity of breastfeeding across different groups of women and in populations of expectant fathers. This study further demonstrated that spousal support within the breastfeeding support system significantly influences maternal attitudes toward breastfeeding. Mothers who receive support from their spouses for breastfeeding tend to have significantly higher IIFAS scores compared to those without such support, consistent with findings from previous studies. The literature also indicates that maternal attitudes toward breastfeeding tend to be more positive when there is positive support from the male partner or spouse (Han et al., 2023).

The attitude towards infant feeding is a crucial predictor of decisions regarding how infants are fed, adherence to feeding guidelines, and the duration and exclusivity of breastfeeding. The Iowa Infant Feeding Attitude Scale (IIFAS), developed by de la Mora et al. (1999), is widely used internationally to assess breastfeeding attitudes. Responses to the IIFAS have consistently been found to predict intentions for infant feeding, the method chosen for feeding infants, and how long breastfeeding is continued.

Understanding the factors influencing breastfeeding attitudes is essential for effectively supporting families in Nigeria to exclusively breastfeed for the recommended first six months postnatal. Breastfeeding is influenced by social factors, and fostering a breastfeeding-friendly society requires a comprehensive understanding of community attitudes toward breastfeeding (Adegbayi et al., 2023).

Various studies highlight that cultural, socio-demographic, psychological, and biophysical factors—including education, occupation, cultural beliefs, family and spousal support—significantly influence breastfeeding knowledge and practices across different societies.

Understanding these factors is crucial for maximizing the effectiveness of programs promoting exclusive breastfeeding (EBF), as they can either facilitate or hinder breastfeeding practices. Positive attitudes and knowledge among mothers are key contributors to successful breastfeeding.

This survey revealed that a significant portion of participants held positive attitudes toward breastfeeding. Studies have explicitly linked optimal exclusive breastfeeding (EBF) practices with supportive attitudes toward breastfeeding. It has been emphasized that favourable parental attitudes toward infant feeding are crucial for a child's nutritional well-being. Perceptions that breastfeeding is more convenient, cost-effective, provides immunity, strengthens mother-child bonds, and is preferred by healthcare professionals were identified as major factors influencing attitudes toward breastfeeding in the study. Moreover, the survey indicated that mothers' perceptions regarding the health benefits of exclusive breastfeeding align with findings from Singh's 2010 study.

Experts have identified several reasons contributing to the varying attitudes mothers have toward breastfeeding. These include encouragement from spouses, friends, or family members, concerns about insufficient milk supply, worries about the effect of breastfeeding on breast appearance, and various psychological and sociocultural factors (Sokan-adeaga et al., 2023).

BREASTFEEDING PRACTICES

The recent research identified several key factors that influence exclusive breastfeeding (EBF) practice: educational attainment, occupation, awareness and knowledge about EBF, positive attitudes towards EBF, and community support. Specifically, individuals with higher education levels, those in civil service occupations, awareness of EBF benefits, accurate knowledge about EBF, a favourable attitude towards EBF, and community encouragement are more likely to engage in EBF. This suggests that individuals with tertiary education, often

employed in civil service roles, may have more opportunities to access information and support through both public and private healthcare settings.

Breastfeeding is a longstanding practice of nourishing infants with their mother's milk, recognized for its role in optimal infant nutrition and maternal health benefits (Essen, 2019). Exclusive breastfeeding (EBF) practice in Nigeria is heavily influenced by its initiation and duration. Factors such as respondents' knowledge levels, professional roles, having older infants, and vaginal birth are associated with EBF. Geographical disparities, traditional beliefs, practices, and delivery location also impact EBF rates, alongside mothers' attitudes and healthcare quality. Despite WHO/UNICEF's recommendation of 90% EBF coverage for infants under six months in low-income countries, Nigeria's rates are notably lower, particularly in northern regions like Jigawa State.

In this study, a significant number of mothers (39.5%) delayed the initiation of breastfeeding. Previous research indicated that some mothers hesitated to breastfeed immediately due to concerns about the perceived cleanliness of their breast milk's colour, opting to wait until they considered it clean enough for their new-borns. However, only 21.8% of mothers in this current study did not give their infants colostrum, and a majority (68.3%) believed in feeding babies on demand. Contrastingly, an earlier study in Nigeria found that 52.4% of mothers supported breastfeeding on demand, while 48.8% considered colostrum too unclean for new-borns, thereby depriving them of vital early nutrition and immunization benefits (Abdulwali et al, 2023).

On a global scale from 2015 to 2021, the average rate of exclusive breastfeeding (EBF) was 48%, whereas in Italy, it stood at 33.3%. More than half of Italian women were aware of EBF, with a majority recognizing its importance for both mothers and children. Conversely, a study in rural Bangladesh found low levels of knowledge (34.5%) and practice (27.9%) of EBF among mothers. In East Africa, a systematic review indicated that 42% of mothers

preferred exclusively breastfeeding their infants for the first six months, and 55.9% had actually practiced EBF for this duration (Ipinnimo et al, 2024).

In Nigeria, the exclusive breastfeeding (EBF) rate was 28.7% in 2018, with even lower rates reported in rural areas at 24.3%. In a semi-urban area of Sokoto state, Northwest Nigeria, only 31.0% of women practiced EBF. Conversely, in an urban centre in Abuja, the Federal Capital Territory, 54.4% of mothers had practiced EBF; despite a high positive attitude towards it (70% agreed it was sufficient for their children). A similar study in Benin, Edo state, showed a 100.0% rate of breastfeeding initiation but only 40.7% practicing EBF. In Ogun state, Southwest Nigeria, a survey across two tertiary hospitals found that 58.8% of women practiced EBF (Ipinnimo et al, 2024).

In numerous countries, inadequate infant and young child feeding practices are recognized as a significant factor contributing to high rates of childhood illness and death. Nigeria, for instance, loses more than 103,742 children annually, along with over $21 billion due to suboptimal breastfeeding practices. In sub-Saharan Africa, approximately 24% of children under five are reported to suffer from moderate to severe underweight, according to UNICEF (Ogunlaja et al, 2024). Optimal breastfeeding is crucial for preventing and managing child malnutrition. Stunting, a form of malnutrition indicating poor nutrition from early pregnancy through early childhood, affects an estimated 144 million under-five children globally, with the highest prevalence in Africa and Asia. In Nigeria, 37.0% of children aged 6–59 months are stunted, with rural areas experiencing nearly double the prevalence (45.0%) compared to urban areas (27.0%) (Ipinnimo et al, 2024).

According to UNICEF, in high-income countries, mothers from lower-income households are less likely to breastfeed, while in low- and middle-income countries like Nigeria, the few mothers who do not breastfeed often come from wealthier households. These findings highlight the influence of socio-economic factors on breastfeeding practices. Additionally, the

support of a husband is associated with higher rates of exclusive breastfeeding, with single mothers less likely to exclusively breastfeed compared to married mothers. Only 44.2% of mothers initiated breastfeeding within the first hour after delivery, aligning with WHO guidelines, which state that a significant majority of babies worldwide are not breastfed within this timeframe. However, in Sokoto, North-west Nigeria, a higher proportion (53%) of mothers' breastfed their infants within the first hour of birth (Ogunlaja et al, 2024).

According to Gebeyehu et al. (2023), mothers who attended antenatal care were 2.7 times more likely to practice exclusive breastfeeding compared to those who did not receive such care. This finding aligns with studies conducted in Ethiopia and Rawalpindi, suggesting that antenatal visits provide valuable nutritional advice from healthcare providers, which positively influences exclusive breastfeeding behaviours. Additionally, women who delivered at healthcare facilities were 3.3 times more likely to practice exclusive breastfeeding than those who delivered at home, consistent with research from Ethiopia and Tanzania. This could be attributed to the opportunity for postnatal counselling available at health facilities. Moreover, the study indicated that mothers who delivered vaginally were twice as likely to practice exclusive breastfeeding as those who delivered by caesarean section, a finding supported by a meta-analysis from Iran. This difference may be due to the complications associated with caesarean deliveries, such as increased risk of uterine rupture, bleeding, infection, and longer hospital stays, which tend to lower exclusive breastfeeding rates according to previous research.

Furthermore, the study found that women who were homemakers were three times more likely to practice exclusive breastfeeding compared to employed mothers, consistent with findings from a meta-analysis conducted in Iran. This difference can be explained by the challenges faced by employed mothers such as time constraints and fatigue, which may hinder exclusive breastfeeding. Additionally, in line with a demographic and health survey

across nine Sub-Saharan African countries, our meta-analysis indicated that women with secondary education were 3.3 times more likely to practice exclusive breastfeeding compared to those without formal education. This reflects the positive impact of higher maternal education on maternal and child health awareness, thereby promoting exclusive breastfeeding practices.

Exclusive breastfeeding plays a crucial role in reducing mortality and morbidity among infants. It aids in the swift recovery from common childhood illnesses like diarrhoea and pneumonia. However, improper practices such as introducing pre-lacteal foods, refusing colostrum, delaying the initiation of breastfeeding, giving water to infants within the first five months, and starting complementary feeding too early can greatly increase the risk of illness and death. These practices also reduce milk intake and may lead to early cessation of breastfeeding.

Numerous studies have explored breastfeeding practices and identified key factors that influence their success. Among these factors, maternal education stands out as a critical determinant in promoting breastfeeding. Mothers generally possess good knowledge about exclusive breastfeeding (EBF) and hold positive attitudes toward it. However, actual practice rates of EBF fall short of WHO recommendations of 90%, highlighting a gap between desired and current outcomes. The low prevalence of EBF can be attributed to various factors including the widespread availability and promotion of breast milk substitutes, cultural and social misconceptions about breastfeeding, challenges women face in balancing work and childcare responsibilities, and insufficient support from families and society for breastfeeding.

Previous studies conducted in various countries have identified a range of socio-economic, demographic, obstetric, and healthcare factors that influence the practice of exclusive breastfeeding (EBF). These factors include characteristics such as the child's birth size, sex,

and age, birth order, spacing between births, place and mode of delivery, maternal age and marital status, maternal age at first birth, educational level, desire for pregnancy, occupation, religion, urban or rural residence, geographical region, household wealth, utilization of antenatal and postnatal care services, parity, family size, smoking status, receiving professional counselling on breastfeeding, infant feeding counselling, early initiation of breastfeeding, and maternal knowledge about EBF.

Our analysis revealed that mothers with higher levels of education are more likely to practice exclusive breastfeeding (EBF) compared to those with lower levels of education. Numerous studies have consistently highlighted maternal education as a pivotal factor influencing infant feeding behaviours. Educated mothers typically have a better understanding of the benefits associated with EBF and are more motivated to adhere to it. Therefore, governments and non-governmental organizations should prioritize literacy programs aimed at educating mothers who are currently illiterate as a comprehensive strategy to promote EBF. Additionally, targeted EBF promotion initiatives tailored to the specific needs of mothers with lower educational backgrounds can also be highly effective.

Another significant factor influencing exclusive breastfeeding (EBF) practice is the number of children a mother has. Mothers with more than one child tend to practice EBF less frequently compared to those with only one child. Managing multiple children makes it challenging for mothers to dedicate sufficient attention and focus exclusively on breastfeeding one child for six months. Therefore, the support of family and society plays a crucial role in enabling mothers to sustain EBF. Globally, governments emphasize Infant and Young Child Feeding (IYCF) through national strategies and collaborations with organizations like WHO and UNICEF. However, these programs should also emphasize the benefits of smaller family sizes and stress the role of supportive family and societal environments in achieving successful EBF practices.

Mothers who are well-informed about exclusive breastfeeding (EBF) tend to practice it more than those with limited knowledge. Our research supports previous studies indicating that EBF rates are higher among mothers who have a good understanding of its benefits. This underscores the importance of adequate knowledge about EBF in promoting its practice among mothers.

Another significant factor linked to the practice of exclusive breastfeeding (EBF) was having a positive attitude toward it. Mothers who held favourable attitudes toward EBF were more likely to practice it consistently. This positive maternal attitude is crucial as it supports prolonged breastfeeding and increases the likelihood of successfully practicing EBF for the recommended six-month period.

Various studies have identified socio-demographic factors linked with improved exclusive breastfeeding rates among mothers. These include higher levels of maternal and paternal education, maternal literacy, and marital status (Apanga, 2014; Dhakal et al., 2017; Gayawan et al., 2014; Qureshi et al., 2011). Regarding maternal age, findings have been inconsistent. For instance, one study indicated that exclusive breastfeeding tends to increase with maternal age up to around 32 years in Nigeria, after which it declines (Gayawan et al., 2014), while other research has shown varying impacts of maternal age on exclusive breastfeeding rates (Qureshi et al., 2011). Household and family characteristics such as family size (parity), household wealth, urban or rural residence, and ethnicity have shown mixed associations with exclusive breastfeeding, with no clear overall trend observed.

The impact of religion on exclusive breastfeeding practices varied across different countries and situations. In Nigeria, research by Jacdonmi et al. (2016) suggested that being Christian positively influenced exclusive breastfeeding behaviours. Conversely, Ojofeitimi et al. (1999) found that Christian affiliation had a negative effect, as some mothers tended to give infants holy water early in life. The practice of offering holy water and other liquids or foods for

religious reasons was common in parts of West and Central Africa, irrespective of religious affiliation, which sometimes delayed the initiation of exclusive breastfeeding within the first hour of life for children.

Maternal knowledge of breastfeeding

Several studies have identified incomplete understanding of the definition and duration of exclusive breastfeeding as barriers to its practice (Aboubacar, 2017; Senega Janneh, 2001; Obeng, 2015). Conversely, maternal awareness of what exclusive breastfeeding entails has been found to predict adherence to it (Cresswell et al., 2017). However, having good knowledge about breastfeeding and its benefits does not always lead to the intention to exclusively breastfeed. For instance, in Nigeria, despite high awareness that babies should be exclusively breastfed for the first six months, many mothers lacked knowledge about when to start weaning (Saidu et al., 2014). This underscores a well-known principle in social and behavioural change: knowledge alone is insufficient to drive behavioural change. Interestingly, some mothers who believed they were exclusively breastfeeding were actually not, which suggests potential over-reporting of the practice (Imorou, 2012; Cameroon: Ministry of Health, 1994; Atindanbila, 2014; Obeng, 2015). In Benin, for example, there was a misconception that giving water, medicines, or food alongside breastfeeding still constituted exclusive breastfeeding (Imorou, 2012). Similarly, qualitative research from Ghana revealed that mothers with infants under six months, despite intending to exclusively breastfeed, often initiated breastfeeding late, improperly positioned the baby, and fed too infrequently (Atindanbila, 2014). This lack of understanding extended beyond mothers to include family members such as grandmothers and fathers (Iddrisou, 2013; Agani, 2017).

Maternal intention to breastfeed

Research across various countries has shown that women who express a strong intention and make plans to exclusively breastfeed are more likely to achieve their goal. For example, in

Ghana, mothers who were motivated to exclusively breastfeed were found to be more successful in doing so (Saaka et al., 2013). Similarly, a study by Aidam et al. (2005b) in Ghana revealed that women who intended to exclusively breastfeed at the time of delivery were approximately 2.5 times more likely to actually practice exclusive breastfeeding compared to those who did not have such intentions. Several qualitative studies also highlighted the importance of a woman's commitment to exclusive breastfeeding as a facilitating factor (Aidam et al., 2005b; Oumarou et al., 2012; Saaka et al., 2013). According to findings, women who were determined and committed were more likely to adhere to exclusive breastfeeding, whereas fear or hesitation could deter some from practicing it (Oumarou et al., 2012). Additionally, previous breastfeeding experiences and observing successful cases among family or friends were reported to positively influence a woman's decision to breastfeed exclusively (Coetzee et al., 2017; Oumarou et al., 2012).

Maternal perceptions (Individual and social expectations)

In multiple studies, women consistently viewed breastfeeding as the preferred and most natural method of feeding infants (Imorou et al., 2012; Klemm et al., 2012; Semega-Janneh et al., 2001; Intiful et al., 2017; Otoo et al., 2009; Dettwyler et al., 1988; Agunbiade et al., 2012; Coetzee et al., 2017; Davies-Agetugbo, 1997; Ogbonna et al., 2018; Faye, 2007). Qualitative research conducted in Benin revealed that mothers perceived breastfeeding as a daily necessity, responding to infants' cries as a signal for breastfeeding (Imorou et al., 2012). In Nigeria, some women considered breastfeeding a "religious privilege," viewing breast milk as a natural gift from God (Coetzee et al., 2017). Studies also highlighted societal expectations and norms around breastfeeding. Nigerian researchers noted that breastfeeding was integral to African women's maternal identity, reflecting strong cultural norms where not breastfeeding was uncommon and socially frowned upon (Ogbonna et al., 2018). Similarly, other studies emphasized the societal pressure on women to breastfeed, framing it as a child's

right (Klemm et al., 2012; Dettwyler et al., 1988). Deviating from this norm could lead to negative consequences, ranging from familial disapproval (Iddrisou, 2013) to more severe reactions such as anger or stigma, such as accusations of HIV or questioning the legitimacy of the child (Agani et al., 2017; Ogbonna et al., 2017).

Qualitative research conducted in Nigeria highlighted that women's feeding decisions were closely scrutinized within their communities. Refusal to breastfeed when a child cried often resulted in public criticism and accusations, questioning the woman's maternal competence and even the legitimacy of her child (Ogbonna et al., 2018). Similarly, a socio-anthropological study in Niger underscored the social repercussions of not having breast milk, potentially leading to social exclusion or ostracization from the community (Oumarou et al., 2012).

Perceived benefits

In most studies, mothers' awareness of the benefits of breastfeeding was consistently linked to higher rates of exclusive breastfeeding (Cresswell et al., 2017; Nukpezah et al., 2018; Yeo et al., 2005). Both quantitative and qualitative research indicated that the perceived advantages of breastfeeding were widely recognized and valued (Agunbiade et al., 2012; Ogbonna et al., 2018; Coetzee et al., 2017; Davies-Agetugbo, 1997; Dettwyler et al., 1988; Imorou et al., 2012; Intiful et al., 2017; Otoo et al., 2009; Klemm et al., 2012; Semega-Janneh et al., 2001; Faye, 2007). Breastfeeding was perceived to:

- ✓ Be the best source of food for babies
- ✓ Promote babies' good health and strength
- ✓ Protect babies against illnesses and disease
- ✓ Develop the baby's intelligence and promote good mental health
- ✓ Strengthen the bond between mother and baby
- ✓ Bring comfort to the mother by relieving breast discomfort

- ✓ Reassure and comfort the baby
- ✓ Be convenient
- ✓ Save money by preventing health care costs.

Exclusive breastfeeding (EBF) practitioners perceived several advantages that reinforced the aforementioned benefits of breastfeeding (Aboubacar, 2017; Otoo, 2009; Oumarou, 2012; Okafor et al., 2018; Olayemi et al., 2014; Tyndall et al., 2016). In a study conducted in Niger, some mothers observed significant differences in their infants' development between those exclusively breastfed and those not. As noted by one mother: "I have six children. I exclusively breastfed the last two and I noticed a clear difference... Previously, my children started walking at 18 months, but with EBF, they walked at 9-10 months" (Oumarou et al., 2012). During focus group discussions in Ghana, some women believed EBF offered protection against health risks associated with inadequate sanitation and hygiene (Otoo, 2009). Additional benefits cited for EBF included enhanced child intelligence (Otoo, 2009), prevention of pregnancy (Aboubacar, 2017), and convenience while traveling (Otoo, 2009).

Perceived barriers

Despite the perceived advantages of breastfeeding, the qualitative literature review highlighted its vulnerability. Research identified various obstacles, including misconceptions such as concerns about the quality of breast milk (Aboubacar, 2017; SemegaJanneh et al., 2001; Agani et al., 2017) and doubts about its effectiveness (including worries about insufficient milk supply) (Amani, 2015; Aboubacar, 2017; Klemm et al., 2012; Tawiah-Agyemang et al., 2008). Additionally, practical challenges related to breastfeeding issues (Aboubacar, 2017; Klemm et al., 2012; Aborigo et al., 2012; Dettwyler, 1988; Keith, 2007; Ogbonna et al., 2018; UNICEF, 2015), maternal absence (Klemm et al., 2012; Amani et al., 2012; Semega-Janneh et al., 2001; Sika-Bright et al., 2014), and its impact on maternal self-image (Aborigo et al., 2012; Otoo et al., 2009; Aluko-Arowolo, 2012; Agunbiade et al., 2012;

Ngwu et al., 2015) were identified as significant barriers.

Perception of breast milk as 'not enough' to satisfy the baby

Several qualitative studies have documented that women perceive breast milk as inadequate for their infants, which acts as a barrier to exclusive breastfeeding. These concerns encompass doubts about the quality and composition of breast milk, prompting mothers and caregivers to supplement infants' diets with food, water, or other liquids to meet nutritional and hydration needs (Aboubacar, 2017; Agani et al., 2017; Keith et al., 2009; Okafor et al., 2018; Isa, 2016; Olayemi et al., 2014). For instance, research from Ghana illustrated that some believe exclusive breastfeeding may leave children physically vulnerable (Agani et al., 2017). Similarly, in Chad, there's a prevalent notion that breast milk alone may not suffice, prompting the addition of other fluids (Aboubacar, 2017). Moreover, various studies indicate that women often question whether their breast milk production is adequate during the first six months, prompting supplementation with water or other feeds (Aboubacar, 2017; Agani et al., 2017; Akuse and Obinya, 2002; Chiabi et al., 2011; Diji et al., 2016; Sani, 2014; Keith, 2007; Mogre et al., 2016; Otoo et al., 2009).

Studies also highlighted specific cues from infants that influenced this perception. For instance, in Ghana, there was a widespread belief that if a baby cried after breastfeeding, it indicated insufficient milk supply from the mother (Otoo et al., 2009). Qualitative research conducted among pregnant and lactating women in Niger revealed that many were unaware of the connection between increased breastfeeding frequency and milk production. Additionally, a common perception among these women was a perceived decrease in milk production around 3 to 4 months, a period coinciding with a child's growth spurt if breastfeeding was not sufficiently frequent (Keith, 2007).

Mothers also identified various factors that could impact their milk supply and composition, including their physical and psychological condition such as anxiety, stress, hunger, and

overall health (Aboubacar, 2017; Otoo et al., 2009; Dettwyler, 1988; Klemm et al., 2017; Otoo et al., 2014; Marquis et al., 2016). For instance, in Chad, research involving focus groups with mothers of infants less than six months revealed that the absence of husbands often caused stress that affected milk production (Aboubacar, 2017). In peri-urban areas of Ghana, discussions among focus groups of mothers highlighted that maternal hunger could hinder exclusive breastfeeding (Amani, 2015; Otoo et al., 2009). Other studies emphasized the crucial role of good maternal nutrition in promoting lactation and supporting exclusive breastfeeding or prolonged breastfeeding duration (MOH, 1994; Oumarou, 2012; Aluko-Arowolo, 2012; Okafor et al., 2018; Agunbiade et al., 2012; Sani, 2014). Illness also emerged as a barrier, as mothers who were unwell, including those with HIV, often faced challenges in breastfeeding (Klemm et al., 2012; Otoo et al., 2014; Marquis et al., 2016). Additionally, physical discomfort from breastfeeding problems such as cracked nipples or mastitis was associated with reduced likelihood of exclusive breastfeeding (Kakute et al., 2005; Aboubacar, 2017; Klemm et al., 2012; Otoo et al., 2009; Agunbiade et al., 2012; Coetzee et al., 2017).

Dettwyler (1988), in her ethnographic study on infant feeding practices among women in Mali, documented that mothers believed breast milk production was tied to a finite amount of blood in their bodies. According to her findings, women in Farimabougou thought that breast milk was produced "from the blood" during lactation, and each woman possessed a fixed amount of blood throughout her lifetime. Consequently, they believed it was impossible to increase or replenish lost blood or to influence the quantity of breast milk through diet or medication. If a woman experienced significant blood loss, such as from an accident, she might not produce enough breast milk for her children and might need to supplement with formula or solid foods. Older women who had nursed multiple children were also thought to have a reduced milk supply and to feel fatigued because they had "used up all of their blood."

This cultural perspective depicted breast milk as a valuable product superior to infant formula, despite variations in quality.

Quality of breast milk

Several qualitative studies have documented concerns that not only colostrum but also mature breast milk might spoil under certain conditions. This perception has led some mothers to consider stopping breastfeeding or offering alternatives such as water, other liquids, or soft foods until the milk's quality improves (Gunnlaugsson et al., 1993; Dettwyler, 1988). The belief that spoiled breast milk could cause illnesses like diarrhea, stomach ache, fever, and even worms in infants was also highlighted across various studies (Ministry of Health, 1994; Aboubacar, 2017; Semega-Janneh et al., 2001; Agani et al., 2017; Iddrisou, 2013; Hamani et al., 2012; Sani, 2014; McMahon et al., 2013). Focus group discussions in Nigeria revealed that pregnant women expressed concerns about breastfeeding due to fears that toxins could be transmitted to their infants through breast milk (Davies-Adetugbo, 1997).

Various factors were identified as potentially altering the quality of breast milk or causing it to become "contaminated," often linked to the mother's health or behaviours. These factors include consuming contaminated or forbidden foods, drinking contaminated water, engaging in sexual activity, being ill, menstruating, being pregnant, and living with HIV. Additionally, breast milk quality could be compromised by external factors such as exposure to heat from the sun or prolonged periods away from the baby, which delays milk expression (Semega-Janneh et al., 2001). In Chad, grandmothers in a focus group stated that a new pregnancy typically leads to the immediate cessation of breastfeeding out of fear that continuing could harm the child, potentially causing diarrhoea, severe weight loss, or even death (Aboubacar, 2017).

Perceived costs of exclusive breastfeeding

Several studies highlighted that breastfeeding was perceived as inconvenient, stressful, and

time-consuming, particularly for mothers who were active outside the home, such as working or attending school (Aboubacar, 2017; Aniebue et al., 2010; Ella, 2016; Okolobiri and Peterside, 2013; Ukegbu et al., 2011; Danso, 2014; Mogre et al., 2016; Semega-Janneh, 2001). Qualitative research conducted in Southern Nigeria revealed that many women felt restricted by breastfeeding, experiencing limitations on their freedom to move around and participate in activities, as well as concerns about attire for breastfeeding in public (Aboubacar, 2017; Aniebue et al., 2010; Ella, 2016; Okolobiri and Peterside, 2013; Ukegbu et al., 2011; Danso, 2014; Mogre et al., 2016; Semega-Janneh, 2001). Some studies also reported that women stopped or restricted breastfeeding due to concerns about potential negative effects on their body, including pain and changes in breast shape and attractiveness (Aborigo et al., 2012; Ella, 2016; Kakute et al., 2005; Aluko-Arowolo, 2012; Udoudou, 2015).

Infant attributes

Certain attributes of the infants and their birth were associated with a lower likelihood of exclusive breastfeeding. These were characteristics related to infant age, sex, and birth conditions.

Age

Many quantitative articles confirmed the common trend of exclusive breastfeeding decreasing as the infant's age increased (Cresswell et al. 2017; Fombong et al. 2016 ; Sika-Bright; Diji et al. 2016; Coulibaly et al. 2014; Jacdonmi et al. 2016; Gayawan, Adebayo, et Chitekwe 2014; Onah et al. 2014; Oparoacha, Ibadin, et Muogbo 2002).

Sex

Studies from Nigeria and Cameroon found that if the child was male, the infant was less likely to be exclusively breastfed (Agho et al., 2011; Kakute et al., 2005). This could be related to the practice of initiating complementary feeding before age six months to help the

baby grow bigger, which could be perceived as a sign of good health (Agani et al., 2017; Agunbiade, 2012). In a qualitative study involving 60 breastfeeding mothers in rural areas of Enugu State Nigeria, Okafor and colleagues found that most mothers were of the opinion that breast milk was not enough, especially for male infants (Okafor et al., 2018).

Premature babies and multiple births

Data from Nigeria indicated that mothers who gave birth to premature babies, had a multiple birth (e.g., twins or triplets), or had a short birth interval (less than two years) were less likely to exclusively breastfeed (Nnorom et al., 2018; Okolobiri and Peterside, 2013; Fehintola et al., 2016).

Mother-infant interactions during breastfeeding

According to Rollins et al. (2016), interactions between mothers and infants during breastfeeding are pivotal in shaping breastfeeding behaviours. Studies indicate that how mothers and their families interpret infant feeding cues, such as crying or fussiness, varies based on cultural beliefs, infant health, and temperament. For example, in Ghana, crying following breastfeeding might be viewed as a signal of hunger, prompting caregivers to supplement breastfeeding with water or other foods, particularly during periods of growth spurts around three to four months (Otoo et al., 2009). This approach sometimes extends to introducing mixed feeding if breast milk alone is perceived as insufficient (Laar et al., 2011).

Setting-level determinants

The decision to exclusively breastfeed is influenced by factors at the setting level, including family dynamics, community norms, health services, and workplace conditions. Women often receive guidance from experienced female relatives and community members, such as mothers, mothers-in-law, and neighbours, as highlighted by Faye (2007) and Aboubacar's (2017) study in Chad. These individuals play a significant role in providing practical advice and daily support for breastfeeding and childcare tasks.

Family and community

As reported by numerous studies, the most influential person impacting breastfeeding behaviours was a close, experienced and senior female member in the household and community (Faye, 2007). The dominant role of women in providing support and guidance around breastfeeding behaviours and other aspects of child-care is well-described in the extract below from Aboubacar's 2017 anthropological study in Chad. This was a common feature shared in all reports included in the qualitative literature review. "As far as breastfeeding is concerned, the support given to the mother within the family and the community is almost identical in all the ethnic groups surveyed: whether it is in terms of practical advice or in terms of daily support in the tasks of caring for the child, we are in an environment that is overwhelmingly dominated by women. These are the new-born's grandmother (mother or mother-in-law of the mother), the new-born's aunt (generally the sister of the mother, very rarely her sister-in-law), the mother's neighbour or friend, and the mother's oldest daughter." According to a focus group of community leaders in Ngambaye, Chad: "A new born can survive for 6 months without water, the child can survive on just milk for 6 months if the wife is monitored, and if the husband and grandmother are aware [accept]." (Aboubacar, 2017).

Grandmothers

Grandmothers, particularly those on the paternal side, exert a significant influence on infant feeding and care practices within families and uphold broader community traditions and social norms. Numerous studies (Atindanbila; Iddrissou, 2013; Keith, 2007; Keith, 2009; Okafor et al., 2018; Sani, 2014; Faye, 2007) highlight that grandmothers play a crucial role in either supporting or discouraging exclusive breastfeeding due to their esteemed status and childcare experience. Grandmothers often guide new mothers on the best practices for infant feeding and care, ensure adherence to traditions and social expectations, look after the baby

in the mother's absence, and monitor the infant's health, growth, and overall development (Aubel, 2012). Quantitative and qualitative research indicates that younger and first-time mothers are particularly inclined to heed the advice and guidance of older women (Imorou et al., 2012; Agunbiade et al., 2012; Nwankwo et Brieger 2002). Qualitative research from Mauritania reveals that grandmothers oversee the child's growth and determine feeding practices if the child is not developing properly (Keith, 2009).

Fathers

Fathers played a significant role in influencing breastfeeding practices. They often acted as decision-makers in the family, maintaining traditions and establishing family practices (Okafor et al., 2018; Sani, 2014; Faye, 2007; Agani et al., 2017). Additionally, as the primary financial providers, they controlled access to healthcare services and food (Imorou, 2012; Aboubacar, 2017; Agani et al., 2017). In Chad, fathers had all decision-making power regarding the child, such as naming, performing rituals, and accepting medical evaluations or practices recommended by health workers (Aboubacar, 2017). Similar observations were noted in Senegal, where women did not follow any instructions without their husbands' approval (Faye, 2007). Agani and colleagues, through in-depth interviews with rural women in Ghana, found that men were the main decision-makers in traditional African settings, and this included infant feeding practices. In their study, fathers did not support exclusive breastfeeding (EBF) and used their roles to control feeding practices (Agani et al., 2017).

A husband’s beliefs could impact exclusive breastfeeding both positively and negatively. In Okafor and colleagues’ study in rural Nigeria, one woman mentioned her husband’s support for exclusive breastfeeding because he understood its importance and wanted her to regain her shape and menstrual cycle quickly. Another woman mentioned her husband's support for breastfeeding with water, which she accepted due to her trust in his judgment (Okafor et al., 2018). Fathers, as financial providers, could either hinder or facilitate access to maternal, new

born and infant healthcare services.

Peers

Peers also influenced breastfeeding practices. Women reported receiving support and guidance from female friends who served as role models, trendsetters, and trusted advisors. Studies indicated that women were more likely to breastfeed if they had been exposed to positive examples and the benefits of exclusive breastfeeding through personal experiences or community groups (Coetzee et al., 2017; Oumarou et al., 2012).

Health facilities and health care workers

Health facilities and healthcare workers had a positive impact on exclusive breastfeeding. Access to and utilization of maternal healthcare services (antenatal, delivery, and postnatal) were associated with higher exclusive breastfeeding rates (Agho et al., 2011; Aidam et al., 2005a). Infants whose deliveries were assisted by health professionals had higher exclusive breastfeeding rates compared to those assisted by traditional or untrained attendants (Agho et al., 2011; Lawoyin et al., 2001; Oparoacha et al., 2002; Saaka et al., 2013). The type of delivery also influenced breastfeeding practices, with mothers in Ghana who had vaginal deliveries being more likely to practice exclusive breastfeeding compared to those who had caesarean deliveries (Dun-Dery and Laar, 2016).

Health care worker support

Health care workers significantly influence and support breastfeeding practices, both positively and negatively. They offer crucial guidance and support before and after birth, as evidenced by studies (Aboubacar, 2017; Klemm et al., 2012; Aborigo et al., 2012; Otoo et al., 2009; Okafor et al., 2018; Coetzee et al., 2017; Sani, 2014). For example, research in Nigeria found that mothers who breastfed their infants as the first feed were three times more likely to practice exclusive breastfeeding than those who used water or water-based solutions initially (Onah et al., 2014). Qualitative studies indicated that health care workers are generally

respected by women and their families. Effective interpersonal communication by these workers has successfully promoted exclusive breastfeeding, even overcoming resistance from grandmothers, as seen in a study in Niger (Oumarou et al., 2012).

However, other studies highlighted insufficient counselling and support from health workers (Amani, 2015; Aboucacar, 2017; Obeng et al., 2015). Reported gaps in health care workers' understanding, skills, and practices included:

- ✓ Sharing inconsistent or incorrect recommendations on exclusive breastfeeding (Amani et al., 2015; Imorou et al., 2012; Otoo, 2009; Faye, 2007). In some countries, changes in exclusive breastfeeding protocols and EBF recommendations within health centers could also confuse health workers (Imorou et al., 2012; Faye, 2007).
- ✓ Communication barriers due to language and understanding (Amani et al., 2015).
- ✓ Low self-efficacy in addressing and changing social norms and family practices. Several qualitative studies discussed apparent contradictions between evidence-based public health recommendations and the deep-rooted lay beliefs and social norms that drive family practices. Both belief systems were justified by a shared desire to ensure the optimal health and development of the infant. This conflict in belief systems was identified as leading to feelings of frustration and helplessness among health care workers and mothers and families, concealing what really happens in homes when asked by health care workers as noted in studies from Niger and Benin (Oumarou, 2012; Imorou et al., 2012).
- ✓ The misconception among health care workers that breastfeeding is an innate behavior that requires no explanation, as illustrated from a study carried out in Mauritania (Kane, 2016).

Workplaces

Workplace factors also negatively impact exclusive breastfeeding. Studies have shown that

women working outside the home often cannot leave work to feed their children or lack the facilities to express and store milk (Imorou et al., 2012; Combassere et al., 2015; UNICEF, 2017; Amani, 2015; Semega-Janneh et al., 2001; Nkrumah et al., 2016; Intiful et al., 2017; Otoo et al., 2017; Sika-Bright et al., 2014; Dettwyler, 1988; Keith et al., 2009; Keith et al., 2007; AlukoArowolo et al., 2012; Tyndall et al., 2016; MacMahon et al., 2013).

A study in Gambia describes how rural women used to bring their breastfed infants to the fields while they worked, but they no longer do so today. One mother explained, "We leave them behind so that we can work faster because taking our child along would cause delay in the work" (Semega-Janneh, 2001). Similarly, a study in Chad reported a father saying, "Having a child that only takes breast milk up to the age of six months would be possible, but not for women who need to work in the fields" (Aboubacar, 2017). In Burkina Faso, a food vendor highlighted the difficulty of breastfeeding while working: "If I go out and want to focus on my work, my baby isn't going to nurse well. Myself, if I concentrate on my work, I am not even going to eat two times, much less four or five times; and my baby there too, if I focus on my work, I am not even going to sit down much less that he is going to nurse" (Combassere et al., 2015).

Structural level determinants

Structural-level determinants affecting breastfeeding include broad social trends (e.g., advertising, media) and policy interventions (e.g., maternity and workplace policies, regulations on breast milk substitutes marketing, baby-friendly hospital certification) aimed at changing social attitudes and practices. Despite the importance of structural interventions in removing barriers for women, there is limited research on this topic in low- and middle-income countries, including the West Africa region (Rollins et al., 2016).

National policy

National policy findings from numerous studies worldwide indicate that maternal work

outside the home is a significant barrier to exclusive breastfeeding. Research has shown that breastfeeding-friendly policies, such as paid maternity leave, lactation rooms, lactation breaks, flexible work schedules, and on-site or nearby childcare, are essential for supporting exclusive and continued breastfeeding (UNICEF, 2019a). For example, a study in Ghana found that mothers with at least three months of maternity leave were more likely to exclusively breastfeed compared to those with less than three months of leave (Dun-Dery & Laar, 2016).

Social trends: 'Water is life'

Social trends in West and Central Africa, particularly in countries with hot and dry climates, have hindered exclusive breastfeeding due to the belief that infants need water to quench their thirst, just like adults. This belief is a social norm in many communities in or bordering the Sahel. For instance, a mother in Mauritania said, "I do give my child water when it's hot. I buy a bottle of mineral water and give it to him. Otherwise it is not safe" (Kane, 2016) (Combassere et al., 2015; Aboubacar, 2017; Agani et al., 2017; Sika-Bright et al., 2014; Kane, 2016; Keith, 2009; Keith, 2007; Oumarou et al., 2012; Coetzee et al., 2017; Davies-Adetugbo, 1997; Sani, 2014; Faye, 2007).

SUMMARY OF REVIEWED LITERATURE

According to the WHO (2012), breastfeeding involves feeding babies and young children with milk from a woman's breast. It is recommended to begin breastfeeding within the first hour after birth and to continue as frequently and as much as the baby desires. Typically, a feeding session lasts about ten to fifteen minutes per breast. Literature reviews have shown that breastfeeding offers significant benefits for both mothers and infants. The WHO (2014) also emphasized that breastfeeding is advantageous for both mother and baby, unlike infant formula which lacks many of these benefits. Despite improvements in child mortality rates in Africa, neonatal mortality has either remained unchanged or worsened in some countries.

Exclusive breastfeeding, which means feeding infants only breast milk (without any additional food or drink, including water) for the first six months, is essential for child health and development. Studies on the knowledge, attitudes, and practices (KAP) related to exclusive breastfeeding often reveal important insights and challenges.

Most mothers know that exclusive breastfeeding is recommended for the first six months of life. They are generally aware of its benefits, such as enhanced immunity, optimal growth, development, and reduced risk of infections. Health professionals, antenatal clinics, and media campaigns play crucial roles in spreading information about breastfeeding. However, gaps in knowledge about specific practices and techniques sometimes persist.

Many mothers have a positive attitude towards exclusive breastfeeding, recognizing its benefits for their child's health and well-being. Attitudes can be significantly influenced by cultural norms and societal expectations. In some communities, traditional beliefs and practices may either support or hinder exclusive breastfeeding. Common concerns include the belief that breast milk alone is insufficient, the perceived inconvenience of breastfeeding, fear of pain or discomfort, and concerns about the impact on physical appearance.

Despite high levels of knowledge and generally positive attitudes, the actual practice of exclusive breastfeeding for the full six months is often lower than recommended. Rates vary widely by region and socioeconomic status. Successful practice is influenced by several factors, including maternal education, support from family and healthcare providers, workplace policies, and maternity leave. Key challenges include the need for more practical support and guidance, addressing misconceptions, ensuring supportive environments in public and workplaces, and managing health issues like lactation problems.

While awareness and positive attitudes towards exclusive breastfeeding are generally high, translating this knowledge and these attitudes into consistent practice remains challenging. Efforts to improve exclusive breastfeeding rates need to address educational, cultural, and

systemic barriers, providing comprehensive support to mothers through healthcare services, family, community initiatives, and policy changes.

The findings from this study have several implications for public health. First, a high level of maternal understanding of exclusive breastfeeding (EBF), its duration, and its perceived benefits may make it easier for women to breastfeed exclusively for six months. Second, mothers with a favourable attitude toward breastfeeding are more likely to sustain it for a longer period and successfully practice EBF for six months. Despite good knowledge, positive attitudes, and appreciable levels of current EBF practice among respondents in this study, there is still an urgent need to improve the situation in healthcare facilities (Sokan-adeaga et al., 2023).

CHAPTER THREE

METHODOLOGY

This chapter is a critical explanation of the methods and procedures adopted by the researcher in carrying out the research study on the knowledge, attitude and practice of exclusive breastfeeding among nursing mothers Ekosodin community. These methods are presented under the following sub-headings;

- Design of the Study
- Population of the Study
- Sample and Sampling Techniques
- Research Instrument
- Validity of the Instrument
- Reliability of the Instrument
- Administration of the Instrument
- Method of Data Analysis

Design of the Study:

This study adopts a descriptive survey research design which was targeted to investigate the level of knowledge, attitude and practices of exclusive breastfeeding among nursing mothers in Ekosodin community, Ovia North East, Edo state.

Omorogiuwa (2019) opined that a descriptive survey research design aims at collecting data on a population of study and using such data to explain the characteristics features and facts about the population. In the same vein, McCombes (2019) opined that it aims to systematically describe a phenomenon and provide important descriptive information especially as it relates to knowledge and allow the researcher to use samples from a large population for possible generalization. This design is considered most suitable for this study as it allows the researcher to collect data from the respondents on their opinions concerning

the phenomenon under study.

Population of the Study:

The population of the study consist of all nursing mothers in Ekosodin community with a total population of 30,000 nursing mothers.

Sample and Sampling Techniques:

A simple random sampling technique was adopted. Four (4) areas were randomly selected from ten (10) areas. The four (4) areas consist of Boundary Road, Newton Street, Edo Street and Market Road. A sample size of 25 respondents will be selected from each area, totalling 100 respondents used for the study.

Research instrument:

A self-structured questionnaire was used for the study which consists of the following sections;

Section A: Socio-demographic data/information of the respondents.

Section B: the respondents' knowledge level of exclusive breastfeeding

Section C: the attitude of the respondent towards exclusive breastfeeding

Section D: the respondents practice of exclusive breastfeeding

Validity of the Instrument:

The instrument was validated and ascertained through review by the researcher's supervisor and two other experts in the Health, Safety and Environmental Education Department to ascertain face and content validity, and to check for any unclear and ambiguous questions for modification. The supervisor was requested to look at the adequacy of the items in line with the purpose research questions in ensuring that it covers all relevant aspects related to knowledge, attitude and practice of exclusive breastfeeding.

Reliability of the Instrument:

The reliability of the questionnaire was assessed using the test-retest method, involving a

sample of ten respondents who were not part of the main study population. The questionnaire was administered twice to the same respondents, with a two-week interval between administrations to minimize memory effects. The responses from both administrations were then analysed using Pearson's moment correlation coefficient, with 0.7 and above considered reliable.

Administration of the Instrument:

Data was collected by face to face administration of the copies of the questionnaire and careful explanation of the purpose of the study, and retrieved immediately from respondents so to ensure maximum return rate.

Method of Data Analysis:

In analysing the data, the researcher made use of descriptive statistics involving frequency counts, simple percentage, mean and standard deviation. The formulated hypothesis will be tested using chi-square. Where necessary, graphs and charts will be employed to offer pictorial presentation of data analysis.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

The purpose of this chapter is to carefully report, meticulously illustrate and judiciously discuss the results of the research. It involves the presentation and analysis of the data gathered in the course of the research, which are in line with the research questions raised in chapter one. This analysis was made using frequency and simple percentage. The results of the findings are also discussed.

100 questionnaires were administered to the respondents.

Research Question One: What is the level of knowledge among Ekosodin nursing mothers regarding the benefits and recommended duration of exclusive breastfeeding?

Table 1: The knowledge and understanding of the concept of exclusive breastfeeding among Ekosodin nursing mothers (n=100)

Variable (Knowledge)	**Frequency (n=100)**	**Percentage (%)**
What do you understand by exclusive breastfeeding?		
Breast milk only	90	90%
Breast milk with water and any liquid	8	8%
I don't know	2	2%
When should breastfeeding begin after delivery?		
Within the first hour of delivery	87	87%
Anytime on the day of delivery	12	12%
After 24 hours	1	1%
Breast milk is the best source of nutrition for my baby?		
Yes	73	73%
No	27	27%
I don't know	----	----

Why should water or any other food not be introduced earlier than six (6) months?		
Decreases the amount of breast milk taken by the baby and affect growth	59	59%
Water and food can be a source of infection for the baby	40	40%
I don't know	1	1%

Source: Researcher's Field Survey, 2024

From Table 1, it showed that majority of the respondents 90(90%) understood that exclusive breastfeeding to be breast milk only, although 8(8%) of the respondents opted that it is breast milk with water and any liquid, while 2(2%) of the respondents do not know. From the knowledge of when should breastfeeding begin after delivery, 87(87%) opined that it should start within the first hour of delivery, 12(12%) were of the opinion that breastfeeding can start anytime of the delivery day, while only 1(1%) was of the opinion that it can start after 24 hours of delivery. On the knowledge of breast milk as the best source of nutrition for the baby, 73(73%) agreed that it is the best nutrition source for the baby, while 23(23%) of the respondents were of the opinion that it is not the best source on the knowledge of why should water or any other food not to be introduced earlier than six (6) months,. 59(59%) of the respondents were of the opinion that it decreases the amount of breast milk taken by the baby and affect growth, 40(40%) opined that water and food can be a source of infection for the baby, while 1(1%) said that they don't know.

Table 2: The duration of both exclusive breastfeeding and complementary breastfeeding

What is the recommended exclusive breastfeeding duration according to health guidelines?		
Below six (6) months	24	24%
0-6 months	69	69%
More than six (6) months	7	7%

Breastfeeding a child should last up to the age of 2years according to WHO and UNICEF guidelines?		
Yes	51	51%
No	45	45%
I don't know	4	4%

Source: Researcher's Field Survey, 2024

From Table 2, the knowledge of the respondents about the recommended duration of exclusive breastfeeding, it showed from the results that 24(24%) of the respondents said that it is below six (6) months, 69(69%) of the respondents opined that it is from 0-6 months, while 7(7%) of the respondents opted that they don't know. On the knowledge about how long breastfeeding should last after exclusive breastfeeding, 51(51%) of the respondents were of the opinion that it should last up to two (2) years of age, 45(45%) opted that it shouldn't last up to 2 years of the baby, while 4(4%) of the respondents said that they don't know.

Table 3: The benefits of exclusive breastfeeding to both the baby and the mother

What are the advantages of exclusive breastfeeding that you know?		
Cheap and available	46	46%
Protect infants from infections	34	34%
Contraceptive methods	20	20%
Breastfeeding is crucial and vital in the baby's health, growth, maturation and development, and the baby's cognitive development		
Yes	83	83%
No	10	10%
I don't know	7	7%
The child's immune system and cognitive development are not		

boosted/improved by exclusive breastfeeding		
True	25	25%
False	72	72%
I don't know	3	3%
Breastfeeding is crucial for building a strong bond and emotional development between me and my baby		
True	53	53%
False	47	47%
I don't know	----	----
The health benefits of breastfeeding outweigh any challenges or risk of various illnesses		
Yes	63	63%
No	35	35%
I don't know	2	2%
Increased risk of infections and health problems are associated with not exclusively breastfeeding your baby		
Yes	71	71%
No	25	25%
I don't know	4	4%
Increased healthcare costs, hospitalization for babies, stress and anxiety for mothers are all effects of not practicing exclusive breastfeeding		
True	62	62%
False	36	36%
I don't know	2	2%
Exclusive breastfeeding is healthful to the mother, preventing the risk of developing breast and ovarian cancer and other health problems associated to the mother		

Yes	43	43%
No	37	37%
I don't know	20	20%

Source: Researcher's Field Survey, 2024

From Table 3, the knowledge of the benefits of exclusive breastfeeding to both to the baby and the mother, 46(46%) of the respondents said that it's cheap and available, 34(34%) of the respondents opted that it protect the infants from infections, while 20(20%) of the respondents opined that it is contraceptive methods. On the knowledge of breastfeeding being vital and crucial for the baby's health, growth, maturation, development and the baby's cognitive development, 83(83%) of the respondents agreed that it does, 10(10%) disagreed that it doesn't, while 7(7%) of the respondents said they don't know. On the knowledge of the child's immune system and cognitive development not boosted or improved by exclusive breastfeeding, 25(25%) of the respondents opined that it does not boost it, 72(72%) of the respondents opted that it does boost the child's immune system and their cognitive development, while 3(3%) opted that they don't know. On the knowledge of breastfeeding building strong bond and emotional development between the baby and the mother, 53(53%) of the respondents opted that it is true while 47(47%) of the respondents said that it doesn't. 63(63%) of the respondents opted that breastfeeding benefits outweigh any health challenges and risk of various illnesses, 35(35%) of the respondents opined that breastfeeding benefits does not outweigh any health challenges and risk of various illnesses, while 2(2%) said that they don't know. On the knowledge of increased infections risks and health problem associated with not breastfeeding exclusively breastfeeding your baby, 71(71%) of the respondents said yes, 25(25%) of the respondents said no, while 4(4%) of the respondents said they don't know. On the knowledge of increased healthcare costs, hospitalization for babies, stress and anxiety for mothers being effects of not practicing exclusive breastfeeding, 62(62%) of the respondents said it's true, 36(36%) of the respondents opted that it's false,

while 2(2%) said that they don't know. 43(43%) respondents said yes that breastfeeding is healthful to the mother as it prevents risk of developing breast and ovarian cancer, 37(37%) respondents said no that it doesn't, while 20(20%) said that they don't know.

Research Question Two: What are the prevailing attitudes towards exclusive breastfeeding among Ekosodin mothers?

Table 4: Attitude of exclusive breastfeeding among Ekosodin nursing mothers

No.	Items (Attitude)	Agree F(%)	Disagree F(%)
1	I feel exclusive breastfeeding is not just important to my baby's health but also vital and essential for both health, growth, maturation and development of my baby	92(92%)	8(8%)
2	I feel breast milk alone is enough for my baby during the first six months	77(77%)	23(23%)
3	I feel my baby will not be adequately nourished by exclusive breastfeeding	54(54%)	46(46%)
4	I feel there are no clear differences between an exclusively breastfed child and not breastfed ones	52(52%)	48(48%)
5	I feel exclusive breastfeeding is tiring and demanding	75(75%)	25(25%)
6	I feel there is no difference between breast milk and artificial milk	79(79%)	21(21%)
7	I feel breastfeeding will make my breast sag	33(33%)	67(67%)
8	I feel motivated and comfortable with the support I receive for exclusive breastfeeding	86(86%)	14(14%)
9	I feel comfortable breastfeeding my baby exclusively for 6months both in private and public	68(68%)	22(22%)

Source: Researcher's Field Survey, 2024

From Table 4, the results of the research showed that 92(92%) of the respondents agreed that exclusive breastfeeding is not just important but vital and essential for the baby's health,

growth, maturation, and development of the baby, while 8(8%) of the respondents disagreed. 77(77%) of the respondents agreed that breast milk alone is enough for the baby during the first six (6) months, while 23(23%) disagreed. Whether my baby will be adequately nourished by exclusive breastfeeding, 54(54%) of the respondents agreed, 46(46%) disagreed. 52(52%) of the respondents agreed that there are no clear difference between an exclusively breastfed child and not breastfed ones, while 48(48%) respondents disagreed. 75(75%) of the respondents agreed that breastfeeding is tiring and demanding, while 25(25%) disagreed. 79(79%) of the respondents agreed that there is no difference between breast milk and artificial milk, while 21(21%) disagreed. 33(33%) of the respondents agreed that breastfeeding will make their breast sag, while 67(67%) of the respondents disagreed. On feeling motivated and comfortable with the support I receive for exclusive breastfeeding, 86(86%) of the respondents agreed, while 14(14%). On being comfortable breastfeeding my baby exclusively for 6months both in private and public, 68(68%) of the respondents agreed, while 22(22%) of the respondents disagreed.

Research Question Three: What are the common breastfeeding practices among Ekosodin nursing mothers?

Table 5: Practice of exclusive breastfeeding among Ekosodin nursing mothers

No.	Items (Practices)	Sometime F(%)	Most times F(%)	Often F(%)	Always F(%)
1	I breastfeed my baby exclusively (without any additional food or water)	30%	25%	25%	20%
2	I offer breast milk as the first choice for feeding and best source of nutrition for my baby	8%	19%	35%	38%
3	I avoid giving formula or other foods/drinks besides breast milk to my baby	34%	38%	21%	7%
4	I breastfeed my baby in response to their hunger cues or when they show signs of hunger	35%	30%	21%	14%
5	I feel confident in my ability to overcome	21%	25%	29%	25%

	breastfeeding challenges and exclusively breastfeed my baby				
6	I prioritize breastfeeding over convenience, societal pressure and other activities when my baby needs to feed	34%	39%	21%	6%
7	I seek support for breastfeeding challenges from healthcare professionals or lactation consultants	20%	27%	30%	23%
8	I educate myself on the benefits of exclusive breastfeeding for my baby's health and developments	33%	31%	21%	15%
9	I overcome obstacles and challenges to continue exclusive breastfeeding	47%	32%	19%	2%
10	I believe that exclusive breastfeeding is the best decision for my baby's health and well-being	35%	40%	21%	4%

Source: Researcher's Field Survey, 2024

From Table 5, this centred on the practice of exclusive breastfeeding, measuring the frequency of the practice using sometimes, most times, often and always. On measuring the frequency of breastfeeding my baby exclusively without any additional food and water, 30(30%) of the respondents said sometimes, 25(25%) most times, 25(25%) often, and always 20(20%). On offering breast milk as the first choice for feeding and best source of nutrition for my baby, 8(8%) of the respondents said sometimes, 19(19%) most times, 35(35%) often, and 38(38%) always. On the frequency of avoiding giving formula or other foods/drinks besides breast milk to my baby, 34(34%) respondents said sometimes, 38(38%) most times, 21(21%) often, while always 7(7%). On breastfeeding my baby in response to their hunger cues or when they show signs of hunger, 35(35%) of the respondents said sometimes, 30(30%) most times, 21(21%) often, and 14(14%) always. On the aspect of feeling confident in my ability to overcome breastfeeding challenges and breastfeed my baby exclusively, 21(21%) of the respondents said sometimes, 25(25%) most times, 29(29%) often, and 25(25%) always. On prioritizing breastfeeding over convenience, societal pressure and other activities when my baby needs to feed, 34(34%) respondents said sometimes, 39(39%) most times, 21(21%) often, and 6(6%) always. Seeking support for breastfeeding challenges from

healthcare professionals or lactation consultants, 20(20%) respondents said sometimes, 27(27%) most times, 30(30%) often, and 23(23%) always. On educating myself on the benefits of exclusive breastfeeding for my baby's health and development, 33(33%) of the respondents said sometimes, 31(31%) said most times, 21(21%) often, and 15(15%) always. On overcoming obstacles and challenges to continue exclusive breastfeeding, 47(47%) of the respondents said sometimes, 32(32%) most times, 19(19%) often, and 2(2%) always. On the aspect of believing that exclusive breastfeeding is the best decision for my baby's health and well-being, 35(35%) of the respondents said sometimes, 40(40%) opted most times, 21(21%) opined often, while 4(4%) said always.

DISCUSSION OF FINDING

From this research study, it was gathered that nursing mothers in Ekosodin had not only good knowledge of exclusive breastfeeding, but also breastfeeding initiation and duration, and its health benefits which correlate with the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommendations that exclusive breastfeeding should be breast milk alone initiated within the hour of delivery and continued till months. The result of this study is in consonance with another study another in Ethiopia were 83.4% of mothers were knowledgeable of the recommended EBF guidelines (Sola et al, 2016). However, this research finding is higher in another study in Malaysia were 44-55% of the mothers are aware of the EBF. The knowledge gaps may explain these differences regarding exclusive breastfeeding among the study participants in each country and the literacy level or level of awareness and accessibility of the maternal and child health information system. The increase in knowledge on EBF that was seen in the current study may be related to the on-going governmental and other organizational activities that have raised awareness and knowledge on this issue.

On the mothers' attitudes about EBF, basically, positive maternal attitudes toward

breastfeeding are associated with continuing to breastfeed longer and having a greater chance of successful breastfeeding. The result of this study indicate that few mothers had a positive attitude towards exclusive breastfeeding, however, some of the mothers perceived that breast milk alone is not enough for their infants and their infants won't be adequately nourished for the first six (6) months, and there are no difference between exclusively and non-breastfed infants, and there is no difference between breast milk and artificial milk. The result of this research study is consistent with Dukuzumuremyi et al, 2020. Also, in a recent systematic review, only 23% of mothers believed that only EBF was enough for a child for up to 6 months, and 45.8% believed that formula feeding was more convenient than breastfeeding. Despite the fact that EBF and breastfeeding in general have benefits, attitudes such as these prevent EBF from being practiced in Nigeria (Sabo et al, 2023).

On the practice of EBF, although there is a high level of EBF knowledge among the nursing mothers, however, the findings of this study indicates that the practice of EBF is poor, suboptimal and below the WHO and the UNICEF recommendations. The WHO and the UNICEF have stated that only about 44% of infants aged 0-6 months worldwide were exclusively breastfed over the period of 2015-2020. Furthermore, a systematic review of peer-reviewed literature from January 2000 to June 2019 revealed that almost 96.2% of mothers have heard about EBF, but only 49.2% knew that the duration of EBF was the first six months. Previous studies shown that despite increase in the information, awareness and enlightenment campaign towards EBF, generally, many mothers lacks knowledge of exclusive breastfeeding, have negative attitudes towards EBF, and do not practice EBF exclusively [(Bonet et al, (2013); Castro et al, (2014); Hawley et al, (2015); Kronborg et al, (2015)]. A study in Ethiopia found that mothers who received counselling on breastfeeding were more likely to practice exclusive breastfeeding (Tadele et al, 2016). In another study in Ghana, it found that mothers who received support from their partners and families were

likely to practice exclusive breastfeeding (Mogre et al, 2016). Barriers to exclusive breastfeeding include lack of proper EBF knowledge, mothers' negative attitudes, and lack of support from the healthcare providers, partners and families.

In 2023, UNICEF and WHO reported that in the last decade, breastfeeding rates have increased by 10 percentage points to 48% globally, with large increases in countries like Cote d'Ivoire, the Marshall Islands, the Philippines, Somalia and Vietnam. The two organizations hope to increase exclusive breastfeeding rates by 70% by 2030.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter summarized the findings of the research and based on the findings made useful conclusion and recommendations for further study.

SUMMARY

The goal of the research study was to vet and assess the knowledge, attitude and practice of exclusive breastfeeding, the health stimulating and health impairing factors and determinants among nursing mothers in Ekosodin community. The study aimed to shed light on the pressing issues and highlighted the necessity for prompt attention and education, and execution of numerous recommendations made by scholars on this topic. In a bid to achieve this, three research questions were raised to know; what is the level of knowledge among Ekosodin nursing mothers regarding the benefits and recommended duration of exclusive breastfeeding? What are the prevailing attitudes towards exclusive breastfeeding among Ekosodin mothers? What are the common breastfeeding practices among Ekosodin nursing mothers? The significance of the study is to be of help in educating the general public, especially nursing mothers on the benefits of exclusive breastfeeding thereby enhancing and promoting the well-being of infants as well as the mothers' through consistent and appealing awareness of the nursing mothers on exclusive breastfeeding and to create a positive and healthy attitude in them, thereby increasing the required practice of EBF among nursing mothers to a very large extent in order to reduce child morbidity and mortality rate.

In the course of the research study, the following findings were observed

1. Nursing mothers in Ekosodin had good knowledge about exclusive breastfeeding and its duration.

2. Few nursing mothers have positive attitude towards EBF as some of the mothers have this misconception that there is no difference between breast milk and artificial milk.

3. The EBF practice among the mothers is very low due to some factors such as literacy level, level of support from healthcare providers, families and friends.

CONCLUSION

While there is generally high awareness and positive attitudes towards exclusive breastfeeding, translating knowledge and attitudes into consistent practice remains challenging. Efforts to improve exclusive breastfeeding rates need to address educational, cultural, and systemic barriers, providing comprehensive support to mothers through healthcare services, family, community initiatives, and policy changes.

The findings from this study have many implications for public health. First, having a high level of maternal understanding of EBF, its length, and its perceived benefits may make it easier for women to breastfeed their babies exclusively for six months. Second, mothers who have a favourable attitude toward breastfeeding are more likely to sustain it for a longer time and have a successful EBF for six months. Regardless of the good knowledge, positive attitude and appreciable level of current EBF practice exhibited by respondents in this study, there is still an urgent need to improve the status quo in the health facility (Sokan-adeaga et al., 2023).

RECOMMENDATIONS

The following recommendations were made based on the finding of the research work;

1. Exclusive breastfeeding education and awareness programme should be incorporated as part of both antenatal and postnatal programme for mothers to be educated and provided with accurate information about EBF, what it entails and its benefits to the infants, mothers, communities etc., and in addressing some EBF myths and misconceptions. Note that accurate information and supportive counselling are key to empowering mothers to make informed decisions about EBF.

2. Breastfeeding-Friendly Environment (BFE) should be advocated for mothers which

encourages breastfeeding. BFE entails privacy (quiet, comfortable and spacious), comfort (safe, clean, cosy area with adequate seating and hydration), supportive (access to lactation consultants, EBF resources), promotion (visible promotion of EBF through signage and literature), protection (free from discrimination and harassment). Creating a BFE empowers mothers to breastfeed confidently and comfortably, promoting a culture that values and supports breastfeeding.

3. Government should develop and implement, create and enforce policies that support breastfeeding, such as paid maternity leave, breastfeeding breaks, and protection from discrimination. Also government should implement and enforce regulations to ensure responsible marketing of formula and other breast milk substitutes.

4. Offering one-on-one guidance and counselling and group support sessions to address EBF challenges and concerns.

5. Regular monitoring, assessing, evaluating and improving breastfeeding promotion efforts to ensure effectiveness. Also regularly monitor the baby's weight, output, and overall health to ensure adequate milk intake.

6. Community and religious leaders and groups should be engaged and social networks to promote breastfeeding and provide support.

7. Hospitals and healthcare facilities should be supportive and implement Baby Friendly Initiatives.

8. Mothers to breastfeed their babies within the first hour after birth, initiating skin-to-skin contact which enhances bonding and breastfeed their babies frequently, at least 8-12times in a day.

SUGGESTION FOR FURTHER STUDY

The researcher having critically analysed the research finding, suggest the following for basis for other researcher can stand upon to make further research;

1. The role of fathers and families in supporting EBF practices.

2. The role of EBF in preventing childhood obesity and related diseases.

3. The cultural and socioeconomic factors influencing EBF practices and outcomes.

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APPENDIX

DEPARTMENT OF HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION
FACULTY OF EDUCATION
UNIVERSITY OF EDUCATION, BENIN CITY, EDO STATE
STUDENTS QUESTIONNAIRE

Dear Respondents,

The researcher is a student of the above named institution, conducting a research on, "The Knowledge, Attitude and Practice of Exclusive Breastfeeding among Nursing Mothers in Ekosodin Community". All information supplied will be treated with utmost confidentiality and used purely for this research purpose.

Thanks for your anticipated cooperation.

SECTION A: DEMOGRAPHIC DATA

INSTRUCTION: Please tick ( ) for the correct answer

1. Age Range: below 30 ( ) 31-35 ( ) 36-42 ( ) 42-50 ( ) 50 and above ( )
2. Educational Qualification: Primary School ( ) Secondary School ( ) College/University ( ) Postgraduate ( ) Others specify……..
3. Marital Status: Single ( ) Married ( ) Divorced ( ) Widow ( )
4. Religion: Christian ( ) Islam ( ) Others ( )
5. Occupation: Civil Servant ( ) Trader ( ) Farmer ( ) Student ( ) Artisan ( ) Others specify ( )

SECTION B:

Knowledge of exclusive breastfeeding among Ekosodin nursing mothers

1. What do you understand by exclusive breastfeeding?

[A] breast milk only( ) [B] breast milk with water and any liquid ( ) [B] I don't know ( )

2. When should breastfeeding begin after delivery?

[A] Within the first one hour( ) [B] anytime on the day of delivery( ) [C] after 24 hours( )

3. Breast milk is the best source of nutrition for my baby

[A] strongly agree( ) [B] agree( ) [C] disagree( ) [D] strongly disagree( )

4. What are the advantages of exclusive breastfeeding that you know?

[A] cheap and available( ) [B] protect infants from infections( ) [C] contraception method( )

5. What is the recommended exclusive breastfeeding duration according to health guidelines?

[A] below six(6) months ( ) [B] 0-6 months ( ) [C] more than six(6) months ( )

6. Breastfeeding a child should last up to the age of 2years according to WHO and UNICEF guidelines

[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )

7. Why should water or any other food not be introduced earlier than six (6) months?

[A] decreases the amount of breast milk taken by the baby and affect growth

[B] water and food can be a source of infection for the baby [C] I don't know

8) Exclusive breastfeeding is also healthful to the mother

[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )

9. Breastfeeding is essential for my baby's health and development

[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )

10. Breastfeeding is crucial for building a strong bond and emotional development between

me and my baby
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
11. The health benefits of breastfeeding outweigh any challenges or risk of various illnesses
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
12. The child's immune system and cognitive development are not boosted/improved by exclusive breastfeeding
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
13. Not breastfeeding exclusively will lead to health problems for my baby
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
14. Increased risk of infections are associated with not exclusively breastfeeding your baby
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
15. My baby's cognitive abilities and potentials will be greatly affected if not exclusively breastfeed
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
16. I will be at risk of developing breast and ovarian cancer if I do not exclusively breastfeed my baby
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )
17. Increased healthcare costs, hospitalization for babies, stress and anxiety for mothers are all effects of not practicing exclusive breastfeeding
[A] true( ) [B] mostly true( ) [C] sometimes true( ) [D] false( )

SECTION C:
Mothers' attitudes towards exclusive breastfeeding

No.	Items	Strongly Agree	Agree	Disagree	Strongly Disagree
1	I feel exclusive breastfeeding is not just important to my baby's health but also vital and essential for both health, growth, maturation and development of my baby				
2	I feel breast milk alone is enough for my baby during the first six months				
3	I feel my baby will not be adequately nourished by exclusive breastfeeding				
4	I feel there are no clear differences between an exclusively breastfed child and not breastfed ones				
5	I feel exclusive breastfeeding is tiring and demanding				
6	I feel there is no difference between breast milk and artificial milk				
7	I feel breastfeeding will make my breast sag				
8	I feel motivated and comfortable with the				

	support I receive for exclusive breastfeeding				
9	I feel comfortable breastfeeding my baby exclusively for 6months both in private and public				

SECTION D:

Practices of exclusive breastfeeding among Ekosodin nursing mothers

No.	Items	Sometimes	Most times	Often	Always
1	I breastfeed my baby exclusively (without any additional food or water)				
2	I offer breast milk as the first choice for feeding and best source of nutrition for my baby				
3	I avoid giving formula or other foods/drinks besides breast milk to my baby				
4	I breastfeed my baby in response to their hunger cues or when they show signs of hunger				
5	I feel confident in my ability to overcome breastfeeding challenges and exclusively breastfeed my baby				
6	I prioritize breastfeeding over convenience, societal pressure other activities when my baby needs to feed				
7	I seek support for breastfeeding challenges from healthcare professionals or lactation consultants				
8	I educate myself on the benefits of exclusive breastfeeding for my baby's health and developments				
9	I overcome obstacles and challenges to continue exclusive breastfeeding				
10	I believe that exclusive breastfeeding is the best decision for my baby's health and well-being				