Chapter One

Introduction

1.1 Background to the Study

Breastfeeding provides young infants with the nutrients for growth, development and health, the human milk is uniquely suited to the infant, both in its nutritional composition and in the non-nutritive bioactive factors, which include cells, anti-infectious, and anti-inflammatory agents and growth factors that promote child survival and healthy child development[1] Breast milk is nutritious, gives the child vigor, protects from diseases, and promotes robust growth and intellectual development. Breast feeding in early life is important for proper growth and development with short and long term health implications[2,4].

Exclusive breastfeeding (EBF) refers to the sole intake of breast milk by an infant from the mother or wet nurse or expressed milk with no additives (solid or liquid) except for drugs, vitamins, or mineral supplements. EBF is the natural way to feed a child that creates a bond through developing trust and a sense of security between the mother and child. The WHO recommends an infant is fed solely with breast milk during the first six months, followed by the gradual introduction of semi-solid and solid foods to augment breast feeding until the child is able to ingest the common diet or traditional food.[2] Exclusive breastfeeding is important for an infant's health. However, despite increased awareness in recent times, it has been reported that breastfeeding practices have declined due to urbanization, the marketing of infant milk formulas and maternal employment outside the homes[3]. Exclusive Breastfeeding (EBF) also mean that an infant receives only breast milk from his/her mother or a wet nurse for the first six months of life without other solids or liquids[6].

The United Nations International Children's Fund (UNICEF) and the World Health Organization (WHO) estimated that if all neonates are breastfed in the first six months of their life, there would be a significant reduction in morbidity and malnutrition rates of children across the world[7].

The World Health Organization (WHO) recommends EBF for the first six months of life. Complimentary foods can thereafter be added at six (6) months of age with the continuation of breastfeeding up to two years and beyond[7]. It is evident from literature that EBF offers both long and short-term benefits both to the mother and the infant[8]. The benefits of EBF to the infant include a reduction in the vulnerability to infectious diseases, steady infant growth and cognitive development, as well as a reduced risk of childhood hypertension, obesity and diabetes mellitus[8]. For the mother, the benefits of EBF include the strengthening of mother-child bond, and a reduction in post-partum blood loss, depression, type 2 diabetes, breast and ovarian cancer[9]. Despite these benefits, global trends suggest that early cessation of breastfeeding, and poorly timed introduction of liquids, solid and semi-solid foods is the norm in many communities across the globe[15].

The United Nations Children's Fund (UNICEF) reports that 40% of infants aged six (6) months and younger are exclusively breastfed globally[14]. If this estimate, only 23 countries across the globe have achieved the UNICEF and WHO recommendation of EBF for 60% of infants six (6) months and younger. According to the Global Burden of Diseases, Injuries, and Risk Factors Study, an estimated 47.5 million Disability Adjusted Life Years (DALYs) were lost in 2010 due to suboptimal breastfeeding.[9] In addition; the low uptake of EBF has been reported as a factor that has contributed to 11.6% of Under-5 deaths in sub-Saharan Africa[11].

In sub-Saharan Africa, there is a disparity in the uptake of EBF with the prevalence ranging from 23.7% in Central Africa to 32.6% in West Africa, 53.5% in East Africa and 56.6% in Southern Africa. The countries with the lowest prevalence in each region were Gabon – 6.0% (Central Africa), Cote d'Ivoire- 13.2% (West Africa), Comoros-13.5% (East Africa) and Namibia48.7% (Southern Africa). In Nigeria, the estimated prevalence of EBF was 17.5%, a proportion that is lower than the minimum 60% recommended by the World Health Organization and UNICEF. Despite the baby-friendly hospital initiative that was introduced in 1991 by UNICEF, Nigeria reports sub-optimal practice of EBF among nursing mothers[14]. Evidence however suggest that the reported low uptake of EBF in Nigeria could be an outplay of some underlying factors[11].

In view of this, Exclusive Breastfeeding (EBF) is seen as one of the largest preventive intervention outcome against childhood mortality with about 13% reduction of under-fives compared to other interventions. Early initiation of breastfeeding within one hour of birth and EBF have been shown to reduce neonatal mortality by up to about 20%.[19,20] Optimum breastfeeding practices has impacts that can last a lifetime and the potential to prevent about 1.4 million deaths of the estimated 10 million deaths that occur annually in children of less than five years of age[3]. Although there is increased awareness of the importance of breast milk and the WHO's recommendation on breastfeeding, the National Demographic Health Survey (NDHS) of 2021 showed that less than one-third (29%) of mothers in Nigeria practice EBF[7]. Although , this is better than the NDHS of 2013 with a EBF rate of 17%, it still falls below the WHO target of 50% by the year 2025[22].

It has been reported in previous research that with EBF coverage of 90%, about 13% of deaths of children less than 5 years could be averted in low and middle-income countries. This assertion is in line with other researchers who opined that initiation of breastfeeding within the first hour of

birth may lead to the prevention of about 20% of neonatal deaths[18]. In low-income/middle-income countries, optimal breastfeeding has the potential of preventing 12% of all under-5 deaths[25]. Children who are exclusively breast fed have been shown to be less susceptible to childhood diseases and are fourteen times more likely to endure ill-health compared with those who are not breastfed[22].

The World Health Organization (WHO) recommends EBF for the first six months of life, in order for the infants to achieve optimal growth, development and health. However, the global rate of EBF remains low (40%)[9]. Research has found that returning to work is the most common reason for not adhering to EBF[7,8]. This is particularly the case in low and lower middle-income countries where women more commonly need to return to work before six months after giving birth, compared to women in higher-income countries. Due to high poverty rates, lack of clean water, poor sanitation infrastructure and lack of access to healthcare in underdeveloped countries, interruptions in EBF can negatively influence infants' health and growth. However, some studies indicate that paid work itself might not be a barrier as a supportive workplace has been found to enable for continuation of breastfeeding[9].

1.2 Statement of the Problem

It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first six months of life, results in 1.4 million deaths and 10% of diseases in under-fives worldwide. These also has long term impact, including poor school performance, reduced productivity, and impaired intellectual and social development[6]. It can also increase the risk of dying due to diarrhea and pneumonia among 0–5months old infants by more than two fold. Evidence showed that out of the sixty percent of under-five mortality caused by malnutrition (directly or indirectly), more than two-thirds of those are associated with inappropriate breastfeeding practices during infancy[6].

However, despite increased awareness in recent times, it has been reported that breastfeeding practices have declined due to urbanization, the marketing of infant milk formulas and maternal employment outside the home[19]. It has been reported that maternal employment outside the home has been one of the factors that influenced the decline of exclusive breastfeeding practice from 56% (at initiation) to 28.5% at 6 months post-delivery among working women from urban centers in Nigeria[19]. It has been reported that returning to work is the most common reason for non-adherence of employed nursing mothers to the practice of EBF[22]. It is against this background that this research is designed to access the knowledge, intention and practice of exclusive breastfeeding by employed nursing mothers in private organizations, in order to inform policy that will aid the effective practice of exclusive breastfeeding by employed nursing mothers in private organizations in Ibadan.

1.3 Justification of the Study

So many factors have been reported in previous studies in other parts of Nigeria to affect exclusive breastfeeding practices, however, not many studies conducted in this part of the country have explored the factors that led to such practices. Thus, this study intends to add to the knowledge on the observed gap in this area by assessing the knowledge, intention and practice of exclusive breastfeeding among privately employed nursing mothers in Ibadan, Oyo State. This study would assess the knowledge of the employed nursing mothers about exclusive breastfeeding, their intention to practice and their actual practice of exclusive breastfeeding. The findings of this study would further reveal the factors influencing the practice of exclusive breastfeeding by the employed nursing mothers and make recommendations which will assist employed nursing mothers to enhance the practice of exclusive breastfeeding so that their babies can remain healthy, also the findings of this study are expected to aid in informing policies to promote the benefits of exclusive breastfeeding and development of appropriate interventions to enhance the practice of exclusive breastfeeding among privately employed nursing mothers in Ibadan, Oyo State towards the fulfilment of the Sustainable Developmental Goals (SDG) two and three.

1.4 Aim and Objectives of the Study

The main objective of this research work is to access the knowledge, intention and practice of exclusive breastfeeding among privately employed nursing mothers in Ibadan

The specific objectives of this study are to:

i. assess the level of knowledge of exclusive breastfeeding among employed nursing mothers in private organizations;

ii. assess the intention to practice exclusive breastfeeding by the employed mothers in the private organizations;

iii. identify the factors associated with the of practice of exclusive breastfeeding among the employed nursing mothers and

iv. identify the factors influencing the practice of exclusive breastfeeding by the employed nursing mothers.

1.5 Research Questions

1. What is the level of knowledge of exclusive breastfeeding among the privately employed nursing mothers?
2. What is the intention to practice exclusive breastfeeding among the privately employed mothers?
3. What are the factors associated with the practice of exclusive breastfeeding among the employed nursing mothers?
4. What are the factors influencing the practice of exclusive breastfeeding among the employed nursing mothers?

1.6 Significance of the Study

The study revealed the level of knowledge of the employed nursing mothers about exclusive breastfeeding, it also stated the intention to practice and the actual practice of exclusive

breastfeeding by the respondents, the findings of this study further revealed the factors influencing the practice of exclusive breastfeeding by the employed nursing mothers and make recommendation which will assist the working class nursing mother to enhance exclusive breastfeeding so that their babies can remain healthy. This study is of great importance to policy makers because it revealed why exclusive breastfeeding is not been effectively practiced among employed nursing mother and ways to influence policies that can be adopted by their employers or organization to enhance the effective practice of exclusive breastfeeding such as increase maternity leave to six months and encourage family members to provide assistance and support especially from their partners, also provision of workplace breastfeeding facilities for the employed nursing mothers.

1.7 Scope of the Study

The study was conducted in the metropolitan area of Ibadan, the study covered 250 employed nursing mothers who are working in private organizations. The study is aimed at assessing the knowledge of the employed nursing mothers about exclusive breastfeeding, the intention to practice and the actual practice of exclusive breastfeeding by the respondents, the findings of this study further revealed the factors influencing the practice of exclusive breastfeeding by the employed nursing mothers.

1.8 Limitation of the Study

The limitation of this study is that there was difficulty in getting the projected number of respondents due to the peculiarity of this study, since the focus was majorly on employed nursing mothers in private organizations only, for instance some major private organizations like banks have few numbers of employed nursing mothers.

1.9 Operational Definition of Terms

Breastfeeding - Breastfeeding is the giving of breast milk to a child directly from mouth to breast contact.

Exclusive Breastfeeding (EBF) - refers to the sole intake of breast milk by an infant from the mother or wet nurse or expressed milk with no additives (solid or liquid) except for drugs, vitamins, or mineral supplements.

Wet Nurse - a woman who breastfeeds another woman's child

Predominant Breastfeeding - Feeding on breast milk or expressed breast milk with other liquids (including water), semi-solid and solid meals. Oral rehydrating solution, vitamin drops, minerals, and medicines may be given.

Complementary Breastfeeding - Feeding on breast milk or expressed milk or milk from a wet nurse, as well as on solid or semi-solid foods. There is no restriction, anything, food, liquid, non-human milk may be given.

Endnotes

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Chapter Two

Literature Review

The chapter reviewed literature related to the knowledge of modern contraception and sexual behavior among students/adolescents. This review focused on the concept of breastfeeding, history of breastfeeding, knowledge and practice of exclusive breastfeeding globally, practice of exclusive breastfeeding in Nigeria, benefits of exclusive breastfeeding to the infants, mothers and the society, barriers to the practice of exclusive breastfeeding, review of relevant theories, review of related studies, theoretical/conceptual framework.

2.1 Conceptual Review

2.1.1 Breastfeeding

Breastfeeding is reported to be one of the oldest practices in human history that has proven to be very critical to the physiology, growth, and overall well-being of neonates as well as the health of women[1]. Breastfeeding is the giving of breast milk to a child directly from mouth to breast contact. It is the healthiest, simplest and least expensive means of meeting the nutritional needs of newborns and infants[1]. Breast milk contains all essential nutrients carbohydrates, essential fats, proteins, minerals, and immunological factors required for the optimal growth and development of infants; hence, it is the ideal meal for infants[1].

2.1.2 History of Breastfeeding

Breastfeeding is reported to be one of the oldest custom in human history that has been very critical not only to the physiology, growth, and overall well-being of neonates but the physiology and health of women as well[1]. The nutritional requirements of newborns and babies can be

satisfied in the healthiest, most practical, and budget-friendly way possible[1]. Breast milk is the best food for infants because it contains all the essential nutrients carbohydrates, essential fats, proteins, minerals, and immunological factors needed for their optimal growth and development. Breastfeeding is the practice of giving breast milk to a child directly from the mouth to the breast[2].

Wet breastfeeding, bottle feeding, and formula use are among the early postpartum feeding strategies historically developed for a full-term newborn. Before the invention of the feeding bottle and formula, using a wet nurse, or a woman who breastfeeds another's child, was a popular practice[3]. Beginning around the year 2000 BC, wet nursing continued up to the 20th century. Wet nursing changed during this time, transitioning from being a necessity (2000 BC) to a preference (950 BC–1800 AD). It developed into a disciplined profession with contracts and legislation intended to control its practice. Wet nursing persisted despite opposition during the Middle-Ages and the Renaissance, up until the 19th century when the feeding bottle was invented. Wet nursing as a vocation rapidly faded into extinction once a practical alternate feeding method became available[3].

Children were seen as a blessing, and breastfeeding was considered a sacred duty in Israel as early as 2000 BC[4]. However, due to lactation failure in some mothers, breastfeeding wasn't always achievable[4]. Similar to the Middle Ages, wet nursing was widely despised in Renaissance society, and mothers were preferred to breastfeed their own children[5]. Increased concerns over wet nursing and arguments in favor of natural mother breastfeeding first appeared in the middle of the 16th century. The Treatise on Children, written by the Italian Omnibonus Ferrarious and published in 1577, emphasized that the mother was a superior option.

It was reported that children could savor the person by whom they are suckled, in other words, they would grow to adore a wet nurse because she had taken better care of them than their own mother[5]. The notion that the child should be breastfed by the mother was supported by French physician Jacques Guillemeau in the early 17th century[4]. In his essay titled 'The Nursing of Children, Guillemeau listed four key arguments against wet nursing. One of these is that the child might be replaced with another, another is that the child might feel less affectionate toward the mother, and a third is that the child might inherit a poor condition. Furthermore, the nurse may convey a flaw in her own body to the child, which could subsequently be passed on to the parents. If a wet nurse was required, Guillemeau suggested a pleasant, healthy, diligent, well-behaved, observant, and sober female who was willing to breastfeed.

Despite the advice, wet nursing remained a popular, well-paid, and well-organized profession during the Renaissance. Consequently, the occupation became a common alternative for many underprivileged women. It was typical for young, single, or married women to give birth and then relinquish their child before seeking work as a wet nurse[5]. Consequently, wet nurses in France were registered at a municipal employment bureau, and legislation was drafted and implemented.

During that era, social class played a significant role in determining breastfeeding practices. Among aristocratic women, breastfeeding was uncommon due to concerns about fashion and body image, as they believed it would negatively affect their figures[4]. Moreover, breastfeeding posed challenges in terms of adhering to the socially acceptable attire of the time and hindered participation in social activities such as card games and theater outings[4]. Additionally, the wives of merchants, lawyers, and doctors refrained from breastfeeding because it was more cost-

effective to hire a wet nurse rather than employing someone to manage their husband's business or handle household responsibilities[6].

During the late 18th century and throughout the 19th century, there was a shift in the practice of wet nursing. Wealthy families were no longer the primary users of wet nurses, as the trend moved towards lower-income families, particularly those engaged in labor-intensive work[5]. This shift was influenced by the Industrial Revolution, which led to the migration of families from rural to urban areas. The rising cost of living and inadequate wages forced many women to seek employment outside the home in order to financially support their families. As a result, these mothers faced significant challenges in breastfeeding and caring for their own children. Consequently, many of these infants were entrusted to impoverished peasant women. According to the law, these peasant wet nurses were required to obtain a license from local authorities and report any deaths that occurred under their care. However, the enforcement of these laws was lax, and they did little to address the high infant mortality rates that affected all infants[5].

Even though wet nursing remained a practice at the close of the 18th century, there was a preference for the biological mother to breastfeed and care for her own children. This preference was evident in William Buchan's publication titled "Domestic Medicine," which expressed skepticism towards wet nurses and their reliance on home remedies[6]. The article highlighted the use of opiate-based remedies like Godfrey's Cordial, which some wet nurses used to help infants sleep[5].

During the 19th century, artificial feeding emerged as a viable alternative to wet nursing. Developments in feeding bottles and the availability of animal milk played a significant role in

gradually impacting the prevalence of wet nurses. By 1900, the once well-established profession of wet nursing had completely disappeared[4].

Breastfeeding has been recognized as a necessity for women since ancient times, with the earliest written sources on the subject originating from the Near East around 3000 BC[12]. Even during the time of the pharaohs, the practice of providing milk to newborns from women other than their mothers existed. These women were carefully selected based on their lactation capacity, and both the quality and quantity of their milk were assessed. In the Roman Empire era, as documented by Soranus, the evaluation of human milk was conducted before hiring a wet nurse, with periodic reassessments to monitor any potential changes that could negatively affect the child's development. As medical knowledge advanced, Greek scholars dedicated more attention to childhood nutrition and the properties of human milk. Ebers, in 1550 BC, recommended human milk as a remedy for various illnesses.

Ancient India had well-developed pediatric medicine, and the earliest descriptions of human milk tests can be found in the journals "Susr Samhit" (4th-2nd century BC) and "Carak Samhit" (AD). During this time, human milk was evaluated based on its appearance and through a water solubility test. In this test, a small amount of milk was mixed with water, and the extent of dissolution was observed to assess its homogeneity.

In the Roman Empire, various methods were used to test the suitability of human milk. The most well-known and widely used method was the "nail test" invented by Soranus. In this test, a drop of milk was placed on a nail, laurel leaf, or similar object with a smooth surface. The milk was considered of good quality if it spilled slowly and retained its drop form when shaken. If the milk

spread rapidly, it was deemed too watery, while milk that remained undispersed was considered too dense.

The practice of feeding newborns with milk from women who were not their biological mothers existed from early times. In Jewish culture, breastfeeding women were rarely hired, and their services were primarily used when twins were born. The hiring of wet nurses became more popular, particularly among aristocratic circles, around the second century AD. When selecting a wet nurse, attention was given to her background, education, and knowledge of foreign languages. The growth of trade and craftsmanship also contributed to the employment of wet nurses among the working class.

During the Renaissance period, there was resurgence in the employment of wet nurses among the higher classes of European societies. In contrast women from lower social classes and rural areas breastfed their own children due to economic reasons[7]. There was a belief that colostrum, the early milk produced after childbirth, was harmful to infants. Consequently, wet nurses were often hired during this period. The belief that women in the postpartum period produced less valuable milk and that women who had undergone strenuous labor were incapable of producing milk of sufficient quality persisted until the end of the classical era.

In 1699, Michael Ettmüller began promoting the benefits of colostrum, believing that it helped with the passage of meconium. Pierre Dionis recommended the nourishing properties of colostrum in 1719, and in 1776, Rosen von Rosenstein argued that it protected against illnesses[8].

During the 19th and 20th centuries, affluent city residents maintained the practice of employing wet nurses, influenced by the example set by French aristocracy. In the later years of the 20th century, Kramszyk conducted a study comparing the mortality rates of children who were fed

artificially, those who were breastfed by wet nurses, and those who were breastfed by their biological mothers[8]. It was during this period that the understanding of breastfeeding's benefits extended beyond infants, acknowledging its potential advantages for mothers as well[8].

During the 1970s, there was a significant increase in breastfeeding research. Studies focused on analyzing the composition of human milk and exploring the short-term and long-term benefits of breastfeeding for both full-term and preterm infants. Research in the late 1980s confirmed that breastfed infants experienced fewer respiratory illnesses and sepisodes of otitis media. Studies conducted in 1995 and 1997 provided evidence that breastfeeding reduced gastrointestinal illness in infants. Further research demonstrated the specific benefits of mother's milk for preterm infants and highlighted the immunological advantages not found in infant formulas.

In the 1980s, a new profession of skilled lactation consultants emerged, supported by organizations like La Leche League International and the International Board of Lactation Consultant Examiners (IBLCE)[9]. The IBLCE examination became the internationally recognized measure of competence in lactation consulting, and International Board Certified Lactation Consultants (IBCLCs) began working in various healthcare settings[9].

In 1981, the World Health Organization (WHO) developed the International Code of Marketing of Breast milk Substitutes to address concerns about marketing practices by infant formula manufacturers. Although the code was widely supported, the United States cast the lone dissenting vote due to business-related concerns. Despite this, breastfeeding rates in the United States were increasing, with 61% of babies being breastfed at birth by 1984. However, society was not fully accepting breastfeeding as a normal function, and legislation had to be enacted in the 1990s to allow breastfeeding in public places[11].

The WHO and UNICEF developed the Innocenti Declaration on the Protection, Promotion, and Support of Breastfeeding. The declaration set ambitious targets for national support of breastfeeding, including the appointment of a national breastfeeding coordinator, adherence to the Ten Steps to Successful Breastfeeding in maternity care facilities, compliance with the International Code of Marketing of Breast-Milk Substitutes, and the enactment of legislation to protect the breastfeeding rights of working women[11,12].

The United States aimed to achieve these goals and launched the Baby-Friendly Hospital Initiative in 1991, recognizing the influence of hospitals and maternity units on breastfeeding support. However, as of February 2008, only 63 hospitals in the United States had earned the Baby-Friendly award. In Nigeria, while breastfeeding rates are high, the rates of exclusive breastfeeding and initiation within the first hour of delivery are low, contributing to the country's high neonatal and infant mortality rates. Overall, efforts have been made internationally to promote and support breastfeeding, recognizing its numerous health benefits for infants and mothers.

In the 20th and 21st century, a health survey conducted by the Canadian government in 1994 revealed that 73% of Canadian mothers initiated breastfeeding, a significant increase from 38% in 1963. It has been suggested that the generational gap in breastfeeding practices in Canada contributes to the lack of success among those who attempt it. Western Canadians are more likely to breastfeed, with 87% of mothers in British Columbia breastfeeding compared to only 53% in Atlantic Provinces. More than 90% of surveyed women cited the numerous benefits of breastfeeding for the baby as their motivation, while 40% of women who did not breastfeed mentioned that formula feeding was easier which was the most common reason given. Women who were older, more educated, had higher incomes, and were married were more likely to

breastfeed. Immigrant women also demonstrated higher rates of breastfeeding. Unfortunately, approximately 40% of breastfeeding mothers discontinued breastfeeding within three months, often due to the perception of insufficient milk production[12].

A study conducted by La Leche League International found that 72% of Canadian mothers initiated breastfeeding, and 31% continued to breastfeed beyond four to five months[13]. Another study published in the Canadian Journal of Public Health in 1996 reported that in Vancouver, 82.9% of mothers initiated breastfeeding, but there were differences among Caucasian (91.6%) and non-Caucasian (56.8%) women. Only 18.2% of mothers were still breastfeeding at nine months, and breastfeeding practices were significantly influenced by the mothers' marital status, education, and family income[13].

Since 1940, Cuba's constitution has included a provision that officially recognizes and supports breastfeeding. Article 68 of the 1975 constitution states that during the six weeks before and after childbirth, women are entitled to mandatory paid leave from work while retaining their employment rights. Additionally, two half-hour rest periods per day are allowed for breastfeeding during the nursing period[14].

In many developing countries, particularly those with low overall health standards, malnutrition is the leading cause of death among children under 5 years old, with 50% of cases occurring within the first year of life[10]. International organizations such as Plan International and La Leche League have been instrumental in promoting breastfeeding worldwide, educating new mothers, and assisting governments in implementing strategies to increase exclusive breastfeeding rates[10].

Traditional beliefs in many developing countries often provide different advice to women regarding the care of their newborns. For example, in Ghana, babies are frequently fed tea

alongside breastfeeding, which diminishes the benefits of breastfeeding and hinders the absorption of iron, an essential nutrient for preventing anemia[55]. Breastfeeding holds significant cultural value in Nepal. Being a developing country with a high infant mortality rate, it is crucial to raise awareness about the importance of exclusive breastfeeding for six months and beyond. A small-scale research study conducted by Khadka Laxmi Shrestha among 25 illiterate mothers and 25 literate mothers of 4-6 months old children attending the M.C.H. clinic at Kanti Children Hospital revealed that only 8% of the literate group had knowledge about exclusive breastfeeding. None of the illiterate mothers had knowledge about exclusive breastfeeding. The rate of breastfeeding was higher among children of literate mothers compared to illiterate mothers (literate: 100%, illiterate: 92%). However, both groups supplemented breastfeeding with additional foods due to inadequate knowledge about breastfeeding. Also it has been proved according to studies that the risk of dying in the first 28 days of life is 33% higher for newborns who initiated breastfeeding 2–23 hours after birth, and more than twice as high for those who initiated 1 day or longer after birth, compared to newborns who were put to the breast within the first hour after birth[14].

2.1.3 Exclusive Breastfeeding

Exclusive breastfeeding has been defined by WHO as the practice of feeding infants for the first six months solely with breast milk without any other liquids or solid foods, except for necessary solutions, supplements, and medicines[21]. It has been reported from studies that exclusive breastfeeding during the first six months of life reduces the risk of infection-caused mortality and hospitalization due to respiratory and gastrointestinal diseases[22,23]. It also influences anthropometric indicators and accelerates the acquisition of gross motor skills[23]. Evidently, the

practice of exclusive breastfeeding has been considered as the best and most cost effective intervention to reduce infant morbidity and mortality[14].

2.1.4 Benefits of Exclusive Breastfeeding

Breastfeeding, initiated within the first hour of birth, provided exclusively for six months, and continued up to two years or beyond with the provision of safe and appropriate complementary foods, is one of the most powerful practices for promoting child survival and wellbeing[21]. In addition to improving child survival and protecting against life-threatening and chronic illnesses, breastfeeding promotes healthy growth and boosts early child development[14].

2.1.5 Benefits for Infants

Exclusive breastfeeding for six months has been linked to several advantages for infants, including higher IQ, a reduced risk of childhood obesity and diabetes, and a decreased likelihood of mental health issues as they enter their teenage years.[14] Furthermore, breastfed children have a significantly higher chance of survival in the early months compared to those who are not breastfed, with at least six times greater odds.[14] Early initiation of breastfeeding also plays a role in reducing infant morbidity and mortality by preventing long-term diseases[21].

Maternal breast milk is widely recognized as the primary defense against death and various health conditions[14]. By promoting breastfeeding, it is estimated that each year, approximately 900,000 children between the ages of 0 and 5 could be saved, with 87.0% of them being infants under six months old[22]. Additionally, breastfeeding has long-term benefits for early childhood development indicators, such as cognitive and behavioral functioning.

The presence of higher levels of intestinal microbes stimulated by breastfeeding is crucial, as it enhances myelin production, which directly contributes to the brain function of infants[27]. Overall, breastfeeding has a positive association with infants' neuronal development, leading to improved reasoning, cognition, and attitude. It is important to note that breastfeeding also provides significant health benefits for mothers. For instance, it can reduce the risk of postpartum hemorrhage, which accounts for a substantial portion (25.0%) of maternal deaths worldwide[19].

It has been reported that the effective practice of exclusive breastfeeding prevent 1.4 million deaths every year among children under five years. In the first six months of life, breastfed infants are six times less likely to die from diarrhea and 2.5 times less likely to die from acute respiratory infection[29]. Breastfeeding protects infants against diarrhea through two mechanisms which include: reduced risk of bacteria from contaminated formula, other liquids and complementary foods and the transfer of maternal antibodies through breast milk[22].

2.1.6 Benefits for Mothers

Breastfeeding provides numerous advantages for women's health. A study demonstrated that within a year, women who breastfed lost 4.4 kg, while non-breastfeeding women lost only 2.4 kg. This highlights the effectiveness of exclusive breastfeeding during the first six months in reducing pregnancy weight gain[27,29].

Moreover, breastfeeding promotes uterine contraction, leading to decreased blood loss after delivery and facilitates uterine involution. It also reduces the risk of developing type 2 diabetes and cardiovascular diseases. Additionally, breastfeeding lowers the chances of breast, endometrial, and ovarian cancers[27].

For some women, the absence of menstruation while breastfeeding serves as a temporary form of contraception, this method proves effective, particularly for those who exclusively breastfeed for six months[40]. Breastfeeding is cost-effective as it eliminates the need for purchasing infant formula. Furthermore, it fosters a sense of bonding between women and their babies while promoting their mental well-being[59].

2.1.7 Social and Economic Benefits

Acknowledging the benefits of breastfeeding is essential as it encompasses advantages for both infants and mothers. It is crucial to recognize the correlation between breastfeeding and various aspects of child development, as this understanding plays a significant role in the intergenerational transfer of human capital. Besides, an estimate of US $341 Billion could be saved annually in the global economy in terms of loss to life, productivity and costs to health systems with exclusive breastfeeding practice[30]. In addition, it is an environmentally friendly practice that promotes cleaner communities free of industrial pollution. Moreover, it informs the implementation of social policies aimed at reducing health disparities across different region

2.2 Theoretical Framework

This study extensively reviewed various theoretical frameworks to assess the knowledge, intention, and practice of exclusive breastfeeding among employed nursing mothers. One of the theories relevant to this study is the King's Conceptual System, which served as the basis for developing the Interactive Theory of Breastfeeding. The King's Conceptual System is an interconnected and open system consisting of three interactive systems: personal, interpersonal, and social.

The personal system comprises seven aspects, including perception, self, body image, growth, development, time, and space. The interpersonal system involves human interaction and encompasses concepts such as interaction, communication, transaction, role, and stress. The social system is formed through the combination of interpersonal systems and incorporates concepts like organization, authority, power, status, and decision-making.

The Interactive Theory of Breastfeeding serves the fundamental purposes of describing and explaining the phenomenon of breastfeeding by analyzing the preceding factors and influences on the breastfeeding process. It aims to provide insights into the consequences of breastfeeding, enabling predictions of outcomes and understanding the dynamic interactivity involved. Additionally, the theory offers guidance for actions to ensure the realization of the various benefits associated with breastfeeding.

The theory incorporates several key concepts, which have been derived through an examination of the concept of breastfeeding. These concepts include mother-child dynamic interaction, woman's biological conditions, child's biological conditions, woman's perception, child's perception, woman's body image, space for breastfeeding, mother's role, organizational systems for breastfeeding protection, promotion, and support, family and social authority, woman's decision-making, stress, and time of breastfeeding. Each concept in the theory is accompanied by non-relational statements that further elucidate its significance. For instance, the dynamic interaction between the mother and child encompasses perception, judgment, action, and reaction during activities like positioning, latching, and suckling, all directed towards the shared objective of breastfeeding. This interaction relies on verbal and non-verbal communication between the mother and child. The woman's biological conditions refer to the biological characteristics and functions that are conducive to breastfeeding, encompassing cellular, molecular, and behavioral

aspects such as breast anatomy and milk production. Similarly, the child's biological conditions pertain to the biological characteristics and functions suitable for breastfeeding, including the anatomy and physiology of the newborn's stomatognathic system.

The perception of breastfeeding by women involves the organization, interpretation, and transformation of information obtained through the senses and memory. This perception can vary significantly among individuals due to differences in knowledge, social and economic conditions, skills, emotions, needs, beliefs, culture, and goals. On the other hand, the child's perception of breastfeeding refers to the sensations experienced during breastfeeding, which are processed and interpreted through their own sensory and cognitive capabilities.

Furthermore, a woman's body image during breastfeeding encompasses her personal perception of her body and how others react to her physical appearance. It is a dynamic and subjective aspect that can influence the breastfeeding experience. The mother's role involves the social expectations and behaviors associated with motherhood, including her relationship with the child and breastfeeding. This role entails acquiring the rights and responsibilities that come with this new social role.

Organizational systems for the protection, promotion, and support of breastfeeding encompass the family, community, and society. These systems utilize resources to achieve the objectives related to breastfeeding. Family and social authority involve a transactional process where the values, backgrounds, and perceptions of those involved in the breastfeeding process influence control, direction, and behavioral changes in women regarding breastfeeding.

Woman's decision-making is a dynamic and systematic process through which women choose to breastfeed among other options. Stress is a dynamic state that can be heightened or reduced by

various stressful factors arising from interactions between the woman, child, and environment. It involves the exchange of energy and information to regulate and control stressors in breastfeeding, which can originate from within or outside the mother-child pair. Internal stressful factors in breastfeeding may include negative perceptions, inadequate biological conditions, body image issues, and conflicting roles as a mother. External stressful factors include inadequate space, insufficient organizational support, and family or social opposition to breastfeeding. Stress can be influenced by intrinsic factors related to women or extrinsic factors related to the mother-child relationship.

The time of breastfeeding refers to the duration between events and is experienced uniquely by each woman. It encompasses two types of time: the length of the overall breastfeeding process, from the first feeding to weaning, and the length of each individual feeding. The recommended length of exclusive breastfeeding by national and international organizations is six months to two years, complemented with other foods. The length of each feeding is determined by the child's needs and can vary from one child to another. The duration of breastfeeding is influenced by the dynamic interaction between the mother and child.

The Interactive Theory of Breastfeeding consists of concepts and non-relational statements that have been developed through analysis and synthesis strategies. The theory draws upon King's Conceptual System, particularly the interaction-transaction process, as a framework to organize the dynamic process of breastfeeding. The interaction process in the theory focuses on the dynamic exchange between the mother and child. It involves elements such as perception, judgment, action, and reaction, all aimed at achieving the mutual goal of breastfeeding. In this theory, interaction occurs between the mother and child, where they can express their thoughts, feelings, and perceptions of each other. Communication plays a vital role in facilitating this

exchange. Mothers and children form personal systems with their own subjectivity and complexity, and these dynamics are facilitated through various forms of communication, including verbal and non-verbal exchanges.

The flow of information within this interaction process consists of sensory, linguistic, neurophysiologic, and subjective elements that contribute to perception. A woman's perception guides her judgment, leading to decisions and subsequent actions during breastfeeding. Transactions occur within the context of women evaluating both the child and themselves, including aspects of feeding success, meeting the child's needs, and impressions of the child's response. Action can be described as a series of behaviors that occur during interactions between individuals. It encompasses various aspects, including mental processes such as recognizing current circumstances, physical actions, and mental efforts to exert control over events in pursuit of goals. Transactions, on the other hand, take place within specific real-life situations where human beings actively engage in events. This active participation in striving to achieve goals leads to an exchange of ideas, information, and actions between individuals

2.2.1 Breastfeeding as a Transactional Concept

The concept of interaction holds a central position in the Interactive Theory of Breastfeeding. It refers to the mother-child interaction that occurs during breastfeeding, where the mother interacts not only with the child's personal system but also with other interpersonal and social systems, enabling the initiation, continuation, and conclusion of breastfeeding. Understanding the concept of roles is crucial for the development of interaction. Each person's role, such as the roles of mother and child, is defined in relation to the other person's role. In other words, clear role definitions are necessary for interaction to take place. In this theory, the mother's role can be

assumed by a woman who takes on this role, regardless of whether she is the biological mother or not.

Interaction leads to transaction, which is a relational statement indicating causality. Transaction occurs when the mother and child perceive and satisfactorily exchange actions and reactions, signifying the presence of mother-child interaction[33]. Therefore, a transaction for breastfeeding occurs only when there is interaction and exchange between the mother and child. Consequently, a definition of breastfeeding was formulated in the Interactive Theory of Breastfeeding that incorporates the transactional nature derived from the conceptual model. Accordingly, breastfeeding is described as:

> *" a process of dynamic interaction in which the mother and child interact with each other and the environment to obtain the benefits of breast milk, directly provided from the breast to the child, creating a unique experience every time"*[33].

The conceptual framework of the Interactive Theory of Breastfeeding was based on an assessment of King's Conceptual System. The theory suggests that certain concepts have an impact on breastfeeding, influencing it in a more distal manner. These concepts include the woman's body image, space for breastfeeding, the mother's role, organizational systems for the protection, promotion, and support of breastfeeding, and family and social authority. These concepts are closely connected to or strongly influenced by the social system, as per King's Conceptual System.

At the level of the interaction process itself, two significant concepts were considered: time of breastfeeding and stress. Time is directly influenced and modulated by the mother-child dynamic interaction during breastfeeding. This interaction affects the duration of each feeding and the

decision to continue or discontinue exclusive breastfeeding after the sixth month, which can be influenced by the introduction of complementary foods before the child reaches six months of age.

Stress is a dynamic state that is influenced by the presence of stressful factors arising from interactions between the woman, child, and environment. It impacts the interaction between the mother and child, as high levels of stress in either individual can hinder effective communication and interaction, thereby impeding the achievement of a successful transaction, this means that breastfeeding may not occur[31].

Assumptions and propositions: Assumptions are principles that are accepted as true without evidence, on which the proposed theory was based. Propositions are statements that describe the relationship between concepts within the theory and, as such, they allow for a large variety of hypotheses to be empirically tested[33].

By using King's Conceptual System as a theoretical basis, it is argued that this middle-range theory is in line with a vision of mutual interaction; it is based on the assumptions of the Open Systems Model in order to set out its own assumptions[33]:

The conceptual framework of the Interactive Theory of Breastfeeding represents a theoretical model that portrays the breastfeeding process as an open, interconnected, and recurring system consisting of 11 key concepts. Its main objective is to describe and explain breastfeeding as an interactive and systemic phenomenon.

The theory acknowledges that individuals are multifaceted beings with complexity in their social, spiritual, holistic, conscious, and rational aspects. They possess cognitive abilities to think, comprehend, make decisions, and choose alternative courses of action to attain their goals.

Furthermore, individuals exhibit variations in their needs, desires, and objectives due to their uniqueness. They hold distinct perceptions, values, cultures, and beliefs that are passed down from one generation to another. Consequently, these variations can differ not only between individuals but also among families and societies.

Individuals have limited self-awareness and consciously engage in interactions with others, objects, and the environment. As a result, their perceptions, judgments, and actions may not always align or be consistent.

Within the framework of the Interactive Theory of Breastfeeding, the individuals involved in the breastfeeding process include the woman, the child, family members, health professionals, and society as a whole. They collectively shape and contribute to the dynamics of breastfeeding.

The proposals of the Interactive Theory of Breastfeeding, encompass the following key points[33]:

- Breastfeeding is a dynamic process characterized by the interactive exchange between the mother and child, as well as their interaction with the environment. It aims to provide the unique benefits of mother's milk directly from the breast to the child.
- The mother-child dynamic interaction is influenced by various factors, including their perceptions, biological conditions, body image, the space available for breastfeeding, the mother's role, organizational systems for breastfeeding support, family and social authority, and women's decision-making processes.
- The duration and success of breastfeeding are modulated by the mother-child dynamic interaction, as well as the levels of stress experienced by both parties.

- Negative perceptions, inadequate biological conditions, or conflicts in their roles can lead to a stressful mother-child interaction during breastfeeding.
- Inadequate space, unsatisfactory body image, ineffective organizational systems for support, and opposition from family or social authority towards breastfeeding can also contribute to stress in the mother-child interaction.
- Successful breastfeeding outcomes are more likely when the expectations and needs of both the mother and child are aligned.
- Successful breastfeeding not only brings satisfaction but also yields health benefits for both the mother and child, as well as positive impacts on society.
- The achievement of a transactional state between the mother and child during breastfeeding helps reduce stress for both parties.
- When the perceptions, judgments, and actions of the mother and child are congruent, a transaction is established.
- The accomplishment of a transaction between the mother and child represents the fulfillment of the breastfeeding process.

2.2.2 The Health Belief Model

This model focuses on an individual's beliefs about the severity of a health issue, their susceptibility to it, and the benefits of taking preventive action, and the barriers or cues to action[87]. Regarding exclusive breastfeeding, a woman's perception of the health benefits for both herself and her infant, her understanding of the risks associated with not breastfeeding, and the support and resources available to her will influence her decision[87].

Perceived seriousness and perceived susceptibility are influenced by an individual's medical knowledge, beliefs about the impact of a disease, and the perceived risks associated with it. Adequate education about breastfeeding can help women understand the seriousness of health challenges related to suboptimal breastfeeding and motivate them to change their behavior for the benefit of their health and their baby's health. Lack of knowledge about breastfeeding negatively affects infant feeding[88].

Perceived benefits refer to a person's belief in the usefulness of a new behavior in reducing the risk of developing a disease. If women are aware of the benefits of adequate breastfeeding for themselves and their infants, they are more likely to practice it. Lack of awareness about the benefits of breastfeeding is a common reason why many women do not follow recommended breastfeeding practices[88]. Providing adequate enlightenment, especially during antenatal care, is crucial for promoting breastfeeding.

Perceived barriers are an individual's evaluation of the obstacles that prevent them from adopting a new behavior. Women face various barriers to breastfeeding, such as painful nipples, low milk production, infant refusal to suck, breast infections, maternal illness, stress, cultural unacceptability, husband refusal, and delayed milk production. Overcoming these barriers requires support and assistance for women to breastfeed as recommended[88].

The four major constructs of perception can be modified by other variables such as culture, educational level, past experiences, skills, socio-demographic factors, and motivation[88]. Maternal age, education, occupation/employment, economic status, marital status, parity, antenatal care, multiple births, type of delivery, birth weight/infant size, cues to action, and self-efficacy are some of the variables that can influence breastfeeding practices[88]. Understanding how these

variables influence breastfeeding practices in a specific locality is important for planning effective promotion interventions.

Previous experiences with breastfeeding also play a significant role in building confidence and influencing breastfeeding practices. Women with breastfeeding experience are more likely to intend to breastfeed and have higher breastfeeding confidence. On the other hand, women with little or no previous breastfeeding experience may require additional support to breastfeed successfully. The beliefs and experiences of friends and family also play a role in encouraging or discouraging breastfeeding[87]. Women with low breastfeeding confidence are more likely to experience breastfeeding failure.

2.2.3 Relevance of the Health Belief Model to this Research Work

Perceived seriousness, Perceived susceptibility, Perceived benefits, and Perceived barriers or cost of action are important determinants of health behaviour. The practice of breastfeeding in a particular community depends on general perception of the community about breastfeeding[88].

Perceived seriousness and perceived susceptibility are shaped by an individual's medical knowledge and beliefs about the impact of a disease on their life. When individuals perceive a disease as serious and themselves as susceptible to it, they are more likely to engage in behaviors that reduce the risk. Breastfeeding education plays a crucial role in helping women understand the potential health challenges associated with suboptimal breastfeeding. By increasing awareness of the health risks associated with inadequate infant feeding, women are more likely to make changes that benefit their own health and the health of their baby. Insufficient knowledge about breastfeeding can have a negative impact on infant feeding practices[87].

In summary, individuals' perceptions of the seriousness and susceptibility of diseases, as well as their understanding of the benefits and barriers, play a significant role in shaping health behaviors. In the case of breastfeeding, education and awareness programs can help women recognize the importance of optimal breastfeeding practices and motivate them to make positive changes for the well-being of themselves and their infants.

Perceived benefits refer to an individual's belief in the usefulness of adopting a new behavior to reduce the risk of developing a disease. People are more likely to adopt healthier behaviors when they believe that the new behavior will decrease their chances of disease. When women are aware of the benefits of adequate breastfeeding for themselves and their infants, they are more likely to practice it. Lack of awareness about the associated benefits is a common reason why many women do not adhere to recommended breastfeeding practices. Providing adequate education, especially during prenatal care, is crucial for promoting breastfeeding[88].

Perceived barriers refer to an individual's evaluation of the obstacles that hinder them from adopting a new behavior. Women face various challenges with breastfeeding. Common complaints include painful or sore nipples or breasts, low milk production, infants refusing to suckle, breast infections, maternal illness, stress, cultural barriers, husband refusal, and delayed milk production after delivery. However, most women can successfully breastfeed as recommended if they receive the necessary support to overcome these barriers[88].

Variables such as culture, educational level, past experiences, skill, socio-demographic variables, and motivation can modify the four major constructs of perception. The impact of these modifying variables can be seen in the following aspects[89]:

- Maternal Age: The relationship between maternal age and infant feeding practices varies across different locations. Some studies, like the one by suggest that maternal age is not a significant determinant of breastfeeding. However, other research has shown that maternal age at the time of birth does influence breastfeeding initiation and duration. Certain studies indicate that older maternal age is associated with higher rates of exclusive breastfeeding and longer duration of breastfeeding. Conversely, some studies link younger maternal age with lower rates of exclusive breastfeeding. These findings highlight the variability in the relationship between maternal age and breastfeeding practices across different contexts. Healthcare professionals need to understand how maternal age influences breastfeeding practices in their specific locality in order to develop effective promotion interventions[89].

- Education: The influence of education on infant feeding practices also varies across different settings. Maternal education below the secondary level has been associated with pre-lacteal feeding and failure to practice exclusive breastfeeding. Women with lower levels of education are less likely to practice exclusive breastfeeding. However, another study has reported that lower maternal education attainment is linked to an increase in breastfeeding practices. Highly educated women may be more likely to adhere to recommended exclusive breastfeeding practices due to their better understanding of the associated benefits. In contrast, less educated women may breastfeed for a longer duration but may not prioritize exclusive breastfeeding due to a lack of awareness. Implementing an enlightening campaign in various languages that emphasizes the benefits of exclusive breastfeeding could help improve practices in different populations[88]

- Occupation/Employment: Various scholars have suggested that maternal employment poses a continuous challenge to breastfeeding. It can even act as a barrier to breastfeeding, particularly if there is insufficient planning and support for breastfeeding mothers in the workplace. Women's employment may negatively impact breastfeeding due to limited time available for breastfeeding. Studies have shown that returning to work after giving birth significantly reduces the likelihood of exclusive breastfeeding at six months have identified the return to work as a crucial factor influencing breastfeeding,as women face challenges in maintaining adequate infant feeding practices while working. Unemployed women are less likely to discontinue breastfeeding early compared to women in administrative or manual jobs and are more likely to exclusively breastfeed. This suggests that women who work long hours are more inclined to mix feeding methods. The occupation of both parents can also has an impact on breastfeeding practices. A study revealed that mothers who had intentions to return to work or study within six monthsof giving birth were less likely to be breastfeeding at the time of discharge from the hospital compared to mothers who intended to stay at home[89]. The challenges faced by working mothers, such as lack of support for breastfeeding in the workplace, have prompted the World Health Organizationto recommend that all working women be provided with adequate support to sustain breastfeeding upon their return to work. This includes allowing them a minimum of one break per day to breastfeed or express breast milk[43].

- Economic Status: Research has indicated that a high socio-economic status is associated with lower rates of exclusive breastfeeding and shorter overall breastfeeding duration This can be attributed, in part, to the employment status of women with a high economic status, which negatively impacts breastfeeding.

However, there are contrasting findings as well. It was reported that women with high income status were associated with higher breastfeeding rates. It has been identified that low economic status as one of the significant determinants of suboptimal breastfeeding, including non-exclusive breastfeeding and shorter duration. It was concluded that significant improvements in the socioeconomic status of women could help reduce childhood malnutrition[91].

- Marital status of a woman plays a significant role in determining infant feeding practices in certain contexts. Suboptimal infant feeding practices are commonly observed among single mothers. Studies have concluded that single mothers are less likely to breastfeed adequately and for an extended duration due to the absence of support and confidence from a partner, as compared to married mothers.

- Parity: The impact of parity on infant feeding practices, particularly breastfeeding, remains inconclusive. In some settings, multiparity has a positive influence on breastfeeding, while in other settings, the impact is negative. Several studies have shown that parity does not confer any advantage to breastfeeding practices indicating that the breastfeeding behavior of primiparous and multiparous women is similar.

  Women who are having their first child (primiparous) are more likely to express a desire or plan to breastfeed compared to women who have had multiple children (multiparous). associated with low parity, suggesting that having fewer children at home requires less time commitment from women. Research has shown that primiparous women are twice as likely to be breastfeeding at the time of discharge compared to multiparous women, although there is no clear association between

parity and overall duration of breastfeeding. However, studies indicated that a high breastfeeding rate is associated with multiparity, meaning women who have had multiple children. One study found that women with fewer than five children are more likely to have a shorter duration of exclusive breastfeeding. Additionally, it has been suggested that multiparity is linked to the practice of exclusive breastfeeding, indicating that primiparous mothers are less likely to exclusively breastfeed compared to women who have had multiple children.

- Antenatal Care: Adequate counseling about breastfeeding during antenatal care can have a significant positive impact on breastfeeding. Attendance at antenatal care is a potential factor influencing infant feeding practices. Attending antenatal care increases the likelihood of early breastfeeding initiation. Mothers who did not attend antenatal clinics during pregnancy may have lower rates of breastfeeding initiation and exclusivity.

- Multiple Births: Mothers of twins face more challenges compared to mothers of singletons when it comes to exclusive breastfeeding. Insufficient milk supply for both twins and limited time for breastfeeding are common reasons for early discontinuation of breastfeeding among mothers of twins. However, another study found that 89.4% of women with twins initiated breastfeeding, and providing support for mothers of twins to overcome breastfeeding difficulties in the first six weeks may lead to a longer duration of breastfeeding. With adequate support, mothers of twins can breastfeed for the recommended duration.

- Type of Delivery: Mothers who give birth vaginally generally have a more positive attitude towards breastfeeding and experience fewer difficulties compared to mothers who undergo a caesarean. Caesarean delivery has been associated with a higher likelihood of formula feeding and lower milk production. However, some studies have found that the type of delivery (vaginal versus caesarean) does not have a significant influence on breastfeeding practices.

- Birth Weight/Infant Size: Infants with low birth weight are less likely to be exclusively breastfed. This may be attributed to the belief that breast milk alone may not be sufficient to support the growth of low-weight infants, leading to a higher tendency to use breast milk substitutes.

- Cue to Action/Self-Efficacy: Cues to action are events, people, or things that motivate individuals to change their behavior, such as the illness of a family member or media reports. Self-efficacy refers to an individual's belief in their ability to perform a specific task. Self-efficacy can be influenced by personal accomplishments (previous experiences), vicarious experiences (observing others' performances), verbal persuasion from healthcare professionals or peers, and physiological and emotional states. Positive experiences, support, and confidence can enhance self-efficacy, while negative emotions and stressful conditions can reduce self-efficacy.

- Previous Experiences with Breastfeeding: Having previous experiences with breastfeeding contributes to building confidence, which is an important factor influencing breastfeeding practices. Women who lack prior breastfeeding experience may require additional support to breastfeed effectively, while women with previous

breastfeeding experience are more likely to have the intention to breastfeed. Health beliefs and the experiences of friends and family can either encourage or discourage breastfeeding. Research has shown that women with low confidence in breastfeeding are at a higher risk of experiencing breastfeeding difficulties. A longitudinal study conducted in Australia found that pregnant women with high breastfeeding confidence were more likely to breastfeed compared to those with low confidence[21].

- Support from Family and Friends: Women who receive support from their family and friends are more likely to breastfeed for an extended period. The presence of a mother-in-law in the household can boost breastfeeding self-efficacy and contribute to the continuation of breastfeeding. Social support from partners, such as husbands encouraging their wives to breastfeed, has been associated with promoting and prolonging breastfeeding. Grandmothers play an influential role in infant feeding choices and can have a positive impact on breastfeeding, particularly when they are knowledgeable about recommended practices.

- Support from Health Workers: Clinicians and health workers can significantly influence breastfeeding initiation and continuation. However, there are instances where professionals may provide confusing breastfeeding information and recommendations, which can have a negative effect. Postnatal support from experts has been shown to increase the duration of breastfeeding. A study found that home visits during the first five weeks after birth can prolong the duration of exclusive breastfeeding. This observation was made after implementing an intervention that focused on assisting women in overcoming breastfeeding challenges. It was identified immediate support for mothers after delivery as a way to address breastfeeding issues and enhance confidence.

- Knowledge of Individuals' Feeding as Babies: Women who are aware of how long they were breastfed as infants tend to have a longer duration of exclusive breastfeeding and overall breastfeeding compared to those who are unaware. Therefore, women who do not have knowledge of their own infant feeding history or who know they were formula or mixed-fed should receive counseling during antenatal care.

- Maternal Prenatal Intention: The intention of mothers to breastfeed during the prenatal period has a significant impact on infant feeding practices. High levels of intention and self-efficacy increase the likelihood of breastfeeding for six months. It is important for all women to receive guidance and support in planning for breastfeeding during the antenatal period.

In conclusion, individual perception of breastfeeding is influenced by various factors such as modifying variables, cues to action, and self-efficacy. The success of breastfeeding promotion programs relies on understanding the factors that influence perception. Maternal socio-demographic characteristics such as age, education, parity, economic status, and employment can also influence breastfeeding. Other factors include antenatal attendance, multiple births, type of delivery, previous breastfeeding experience, breastfeeding support, knowledge of individuals' feeding as babies, maternal prenatal feeding intention, and infant birth weight. A positive perception of breastfeeding leads to increased self-efficacy and intention to breastfeed according to recommendations.

2.2.3 Theory of Planned Behavior

According to research, the variables that may affect EBF and duration of breastfeeding are the followings: race, maternal age, mother's occupation, parents' education level, socioeconomic

factors, insufficient breastmilk, baby disease, maternal obesity, smoking,twining, type of delivery, and mothers' tendency for breastfeeding. Breastfeeding behavior is influenced by various factors, including physiological and psychological status of mothers[91]. The Theory of Planned Behavior (TPB) is one of the behavioral theories which can be utilized as a proper framework to examine mothers' EBF behavior. According to a meta-analytic study, after reviewing other theories and models, the TPB is identified as the most complete and themost appropriate theory to study the behavior[79]. As this theory suggests, intention is under the influence of three independent constructs, including attitude, subjective norms, and perceived behavioral control. Regarding the TPB, when a person believes a behavior ispositive, some influential people expect that behavior to happen, and has control over that specific behavior, he or she develops an intention to perform that behavior. Moreover, thistheory assumes that the attitudes, subjective norms, and perceived behavioral control are determined by the underlying assumptions[90].

Research examining the psychological factors influencing physical activity behavior has traditionally relied on adopting a single theoretical approach from the various theories and models in social psychology. The goal of utilizing a theory or model is to efficiently identify the important psychological factors associated with physical activity and understand the processes through which these factors impact behavior. While many psychological theories applied in the context of physical activity have shown effectiveness in predicting behavior, several limitations have been identified. These limitations include issues with falsifiability, weak relationships between key constructs (such as intention and behavior), and challenges in identifying the origins of constructs within the theories. Consequently, the development of integrated models has emerged to address these limitations by drawing from multiple theories[91]. These integrated models aim to provide more effective explanations of the psychological influences on physical

activity behavior. The Theory of Planned Behavior (TPB), suggested that behavior is influenced by the intention to perform a certain action[79]. This theory applies to breastfeeding outcomes, as they are greatly affected by the level of social support. The TPB explains how initiation, duration, and stability of breastfeeding can vary depending on subjective factors. Social support can be divided into formal and informal forms. Formal support methods include providing breastfeeding information, demonstrating evidence-based practices, and verifying knowledge through professionals like nurses, lactation consultants, peer counselors, and nutritionists. These methods are typically delivered through individual or group sessions at Women, Infant Clinic (WIC) clinics, with an emphasis on addressing the concerns of mothers to build confidence and strengthen the decision to breastfeed[80].

In order to ensure optimal results, social support should begin during the prenatal period and continue throughout the perinatal period. It is important to coordinate both formal and informal support providers such as spouses, mothers, relatives, and the community, to achieve the desired outcomes[87]. Nurses play a crucial role in evaluating and identifying the key components of support, including the support provider, opportunities for peer interaction, prenatal support, and ongoing support. These components influence a nurse's ability to understand the motives behind a mother's breastfeeding behavior and decision-making process. Healthcare providers acknowledge the importance of social support for breastfeeding, but the challenge lies in effectively categorizing and integrating support mechanisms to provide women with the best possible opportunities to enhance their breastfeeding efforts.

The Theory of Planned Behavior (TPB) has proven to be a valuable framework for understanding and predicting behavior change, including breastfeeding behavior. According to the TPB, three key factors influence behavior: attitude (knowledge), subjective norm, and

perceived control over the behavior. Numerous studies have investigated the relationships between knowledge, attitude, subjective norm, practice control, and breastfeeding behavior[91].

The Theory of Planned Behavior (TPB) can be applied to understand and predict exclusive breastfeeding behavior among mothers. Exclusive breastfeeding refers to the practice of providing only breast milk to an infant without the introduction of any other liquids or solid foods for the first six months of life[86]. According to the TPB, exclusive breastfeeding behavior is influenced by three main factors: attitudes, subjective norms, and perceived behavioral control[86]. Attitudes toward exclusive breastfeeding involve a mother's beliefs and evaluations of this behavior. Positive attitudes, such as perceiving exclusive breastfeeding as beneficial for the baby's health and bonding, are likely to increase the intention and likelihood of engaging in exclusive breastfeeding. Subjective norms encompass the social influences and perceptions of others regarding exclusive breastfeeding[90]. These can include the support and encouragement from partners, family members, healthcare professionals, and cultural norms, if a mother perceives that these influential individuals or groups value and support exclusive breastfeeding, she is more likely to intend to practice it. Perceived behavioral control relates to a mother's perception of her ability to engage in exclusive breastfeeding. Factors such as self-efficacy (belief in one's capability), availability of support systems, knowledge and skills, and access to breastfeeding-friendly environments can influence perceived behavioral control[65]. If a mother feels confident in her ability to breastfeed exclusively and perceives that external factors are supportive, she is more likely to intend to engage in this behavior.

Altogether, these factors contribute to a mother's intention to practice exclusive breastfeeding. It is important to note that the TPB recognizes that intentions alone do not guarantee behavior change, as external factors and barriers can also play a role. However, the TPB provides a

framework for understanding the psychological determinants of exclusive breastfeeding behavior and can inform interventions and strategies aimed at promoting and supporting exclusive breastfeeding among mothers[91].

2.2.5 Social Cognitive Theory (SCT)

The theory of Social Cognitive Theory (SCT) offers valuable insights into how intention and the practice of exclusive breastfeeding are connected. SCT focuses on the impact of observational learning, self-efficacy, and social influences on behavior. By applying SCT to exclusive breastfeeding, we can understand the following:

- Observational Learning: SCT highlights the importance of learning through observation and modeling. In the context of exclusive breastfeeding, observing other mothers successfully breastfeeding can influence a mother's intention and motivate her to practice exclusive breastfeeding. Positive role models who demonstrate the benefits and techniques of exclusive breastfeeding can have a significant impact on a mother's intention and her actual breastfeeding behavior.
- Self-Efficacy: Self-efficacy refers to a person's belief in their own abilities to perform a behavior successfully. When it comes to exclusive breastfeeding, a mother's self-efficacy plays a crucial role in both her intention and her actual practice. Higher levels of self-efficacy in breastfeeding can lead to a stronger intention to breastfeed exclusively and increase the likelihood of successful breastfeeding. Building self-efficacy can be achieved through education, support, and skills training, which can positively influence a mother's intention and enhance her breastfeeding practice.

- Social Influences: SCT recognizes the impact of social factors on behavior. In the case of exclusive breastfeeding, social influences include support from family, friends, healthcare providers, and breastfeeding support groups. Positive social support, encouragement, and role modeling from these sources can strengthen a mother's intention to breastfeed exclusively and positively influence her breastfeeding practice.

2.3 Review of Empirical Studies

According to a systematic review conducted in Nigeria found that many mothers lack proper knowledge about the benefits of exclusive breastfeeding (EBF), which leads to their reluctance to adopt this practice[36]. Consequently, there is a significant barrier to initiating breastfeeding within the first hours of birth, as recommended by the World Health Organization (WHO). This results in infants being deprived of essential nutrients and hormones that are crucial for strengthening their immune systems.[36] Misconceptions about EBF, such as considering colostrum as stale milk with insufficient nutrients and believing that food supplements are better for infants, contribute to this problem. Additionally, cultural practices rooted in the belief that colostrum is impure lead to delayed initiation of breastfeeding in many children. Another study conducted in South Asia confirmed that these misconceptions about colostrum hinder timely breastfeeding[37].

It was reported in another study that even though mothers understand the importance of giving colostrum to their infants by initiating breastfeeding immediately after delivery, the key obstacles to EBF include incorrect perceptions and practices, low socioeconomic status of parents, lack of spousal support, need to return to work, breastfeeding difficulties, delivery by cesarean section, stress related to EBF, and fear of developing saggy breasts[38].

According to literature, the following barriers were reported as hindrances to the effective practice of exclusive breastfeeding:

2.3.1 Effect of Cesarean Section on Early Initiation of Breastfeeding

Research showed that cesarean surgery can delay early breastfeeding, decrease breastfeeding success and duration. It was reported that mothers who delivered by cesarean section often find it difficult to achieve a comfortable position for breastfeeding, due to pain and discomfort, also, the notable instances of illness and death among children in sub-Saharan Africa, which have raised concerns, could be partly avoided through proper nutrition and feeding practices, including optimal breastfeeding. The medical literature has extensively highlighted the significance of nutrition during the first thousand days of life for overall lifelong well-being and that the most essential components of adequate nourishment for infants and young children in their initial two years are optimal breastfeeding and complementary feeding. Breastfeeding has been reported to be a proven, cost-effective public health measure that promotes the overall health and survival of children, with a lot of advantages for both mothers and children, encompassing heightened cognitive abilities, decreased occurrences of respiratory infections, diarrhea, ear infections, and other childhood illnesses. Despite these evidence-backed benefits, global breastfeeding rates have not reached their potential, with considerable disparities among and within regions, the practice of exclusive breastfeeding in sub-Saharan Africa has been limited. In Nigeria, merely 29% of infants were exclusively breastfed, while Ethiopia demonstrated a higher rate of 59.9%. It has been reported that multiple factors contribute, such as maternal employment, household responsibilities, influence from grandparents and other relatives, and minimal support from husbands or partners. The initiation and continuation of

breastfeeding have a strong association with having sufficient support from partners. When partners are not involved, many men feel excluded from the breastfeeding process.

2.3.1.2 Intention of Nursing Mothers to Practice Exclusive Breastfeeding

The public perception of breastfeeding has sparked more controversies than resolutions regarding its acceptance. Although it is ideal for women to use designated feeding areas when outside their homes, some degree of public breastfeeding is inevitable. The fact that nearly half of our survey participants deemed public breastfeeding inappropriate underscores the negative societal view of this practice. This aligns with findings from previous research where men indicated a preference for women revealing parts of their breasts over breastfeeding in public spaces. This sentiment is similar to the attitudes expressed by fathers in another study, where many felt discomfort with mothers breastfeeding publicly. The notion that breastfeeding is unsightly, awkward, or indecent aligns with conclusions from an earlier study among young men in the United States. However, it's noteworthy that young men have also demonstrated positive attitudes toward breastfeeding after witnessing multiple instances of women nursing their infants. The Innocenti declaration emphasizes the need to cultivate a breastfeeding culture across communities, necessitating collaborative endeavors to empower women to breastfeed confidently and competently, even in public settings[43].

In contrast to findings from Ibadan, southwest Nigeria, where fewer than a quarter of respondents held a favorable perception of infant feeding, the participants in a study had a largely positive view of breastfeeding. Support for breastfeeding in this study was predominantly positive, with participants expressing willingness to advocate for policies, community initiatives, and activities that encourage women to breastfeed their babies. This mirrors outcomes from prior

studies conducted in various countries, where men actively supported their partners in breastfeeding and advocated for community initiatives to promote and safeguard breastfeeding. A previous study indicated greater support for breastfeeding among younger men compared to older participants.

The significant role played by fathers or partners in supporting breastfeeding mothers significantly influences successful breastfeeding outcomes. A confident father is more likely to excel in promoting breastfeeding at home and within the community. Given substantial evidence that lack of family support, particularly from husbands or partners, hinders breastfeeding intentions, initiation, and duration, efforts to involve men in breastfeeding should be intensified. Often, attitudes toward breastfeeding are shaped before men become fathers, influenced by cultural factors or media messaging. The Global Breastfeeding Collective, led by UNICEF and WHO, advocates for increased support for breastfeeding. Specifically, the role of partners should be acknowledged through measures like paternity leave, in addition to established paid maternity leave, and comprehensive community mobilization.

2.3.1.3 Level of Education of the Nursing Mothers

According to studies, the educational level of parents plays a significant role in facilitating exclusive breastfeeding practices in the country[38,40]. However, despite mothers in urban communities having greater access to various sources of information such as radio, television, newspapers, and the internet, the practice of exclusive breastfeeding is lower among this group compared to mothers living in rural areas[36]. This highlights the fact that mere availability of health-related information is insufficient for understanding and implementing breastfeeding practices. While a study conducted in Rafsanjan, Iran did not find a statistically significant

association between maternal health literacy and breastfeeding patterns due to overriding personal and social factors, another study in Rawalpindi, Pakistan revealed that mothers with higher education levels and those who received breastfeeding guidelines demonstrated improved knowledge and practices[41,42]. Thus, low educational attainment of parents could serve as a barrier to adopting exclusive breastfeeding.

2.3.1.4 Time of Initiation of Breastfeeding

According to a study conducted in Tamale, Ghana, it was reported that about 39.4% of the respondents initiated breastfeeding within one hour after birth and about 344 (87.5%) of participants believed that EBF should be practiced for five months in their locality. Although all the participants had some level of education background, a majority failed to have adequate information on EBF and EBF rate was low within the study community[44]. It was reported that the pressure to return to work soon after delivery, inadequate or very short maternity leave, absence of daycare facilities or lactation rooms in workplaces throughout the country, and unreliable electricity supply for pumping and storing breast milk pose obstacles to exclusive breastfeeding practices[44]. Similarly, evidence from a study evaluating the effectiveness of workplace lactation programs in the United States indicated that lactation rooms, social support, and services such as the provision of breast pumps enhance breastfeeding initiation, duration, and exclusivity[39].

According to another study conducted in Ghana, approximately 96% of the respondents believed that introducing solid foods to infants is only appropriate from the age of 6 months onwards. This finding suggests that women possess knowledge regarding most aspects of early breastfeeding initiation. This result is consistent with a study conducted in Nyando district,

Kenya, where mothers also demonstrated knowledge about early breastfeeding during their third trimester[43]. However, studies conducted among mothers in rural Punjab, India, and Saudi Arabia revealed inadequate knowledge among respondents regarding early breastfeeding. The study found that a significant number of participants (86.9%) initiated breastfeeding immediately after birth, aligning with the World Health Organization's recommendation of initiating breastfeeding within the first hour and continuing exclusive breastfeeding for the first 6 months of an infant's life[22,45]. This suggests that the competence of healthcare workers and supportive facilities can influence exclusive breastfeeding practices. The study also affirmed that the social cognitive theory construct, which states that health centers and society serve as platforms or sources of incentives for breastfeeding mothers, played a role in motivating mothers to adhere to EBF.

Another study conducted in Mizan Aman town, South West Ethiopia, which revealed that a significant percentage of participants perceived EBF as the preferred choice over artificial feeds, preferred EBF, hesitated to give additional feeds apart from breast milk, and believed that exclusively breastfed children are healthier. These findings are consistent with Bandura's social cognitive theory, which suggests that the expected benefits and rewards associated with EBF influence attitudes and perceptions in mothers[60,61]. The study also found a correlation between positive attitudes towards EBF and longer duration of EBF.

According to the findings of the study conducted among working mothers in Udupi taluk, it was reported that the prevalence of EBF was low, about 17.5% of the working mothers practiced exclusive breastfeeding[62]. Also majority of the mothers received information on EBF from community health workers which is similar to the study conducted in Ethiopia. The result from the findings of the study conducted in Udulp was concluded that the most common reason for working mothers to start supplementary feeding before six months of child's age was early return

to work/business which is consistent with other studies where resumption of work was the major barrier to EBF among these mothers[40,61,62].

2.3.2 Publicity, Promotion and Law in Breastfeeding

According to studies, it has been reported that, the Innocenti Declaration which is focused on Safeguarding, Encouraging, and Supporting Breastfeeding emerged as a consensus among participants of the WHO/UNICEF policymakers' gathering titled "Breastfeeding in the 1990s: A Global Initiative," held at the Ospedale degli Innocenti in Florence, Italy[43]. This innovative initiative generated impetus and dedication at the national level to establish domestic breastfeeding policies and define suitable national objectives for the 1990s. It also clarified the roles of international organizations in supervising and delivering technical assistance for country-based programs. Following the 1990 Innocenti Declaration, the Baby-Friendly Hospital Initiative (BFHI) was launched jointly by WHO and UNICEF in 1991, recommending Ten Steps to Successful Breastfeeding[46]. The BFHI equipped healthcare facilities with crucial resources, materials, and protocols to raise awareness about breastfeeding and provide support and protection for infants, mothers, and families. The BFHI became a gateway for incorporating breastfeeding awareness into maternity services systems[46].

According to studies, the World Health Organization (WHO) and UNICEF have initiated campaigns aimed at enhancing child health and survival in 1981. Notable among these efforts are the International Code of Marketing of Breast-milk Substitutes and the Ten Steps to Successful Breastfeeding.[47] Building on the Innocenti Declaration, the Baby-Friendly Hospital Initiative (BFHI) was launched in 1991 to safeguard, promote, and support breastfeeding[45]. The initiative aimed at offering every infant an optimal start in life by enhancing maternity services for

expectant women, mothers, and newborns; establishing environments that normalize breastfeeding; and reinforcing the implementation of the International Code[46]. The ten steps to successful breastfeeding includes:

- Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions. Have a written infant feeding policy that is routinely communicated to staff and parents. Establish ongoing monitoring and data-management systems.
- Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.
- Discuss the importance and management of breastfeeding with pregnant women and their families.
- Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.
- Support mothers to initiate and maintain breastfeeding and manage common difficulties.
- Do not provide breastfed newborns any food or fluids other than breast milk, unless medically indicated.
- Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day.
- Support mothers to recognize and respond to their infants' cues for feeding.
- Counsel mothers on the use and risks of feeding bottles, teats and pacifiers.

It was reported that WHO and UNICEF introduced a set of tools for worldwide medical facilities to gauge compliance according to globally agreed indicators. These tools were designed to be

adaptable prototypes, catering to the unique requirements of each country. In 2006, they were expanded and updated to encompass integrated Mother-Friendly Care and guidance for HIV-positive and non-breastfeeding mothers[48]. In the revised version, this recommendation was adjusted to 40 to 90 participants, considering factors like hospital size, services offered, availability of interviewees, time, cost, and assessors' capacity[49].

The Ten Steps were revised in 2018 to emphasize crucial management procedures (Steps 1 and 2) and clinical practices (Steps 3–10) essential for sustained implementation, step 2 now prioritizes competency building for staff training rather than a specific curriculum. Step 8 highlights responsive feeding rather than demand feeding, and Step 9 concentrates on counseling mothers regarding teats and pacifiers' use and associated risks rather than an outright ban[48]. The 2018 revision of the BFHI implementation guidelines maintains adherence to the International Code and supports Mother-Friendly maternity care. In relation to HIV and Infant Feeding, the revision suggests that countries develop their context-specific guidelines[48].

However, two decades after the acceptance of the International Code of Marketing of Breast-Milk Substitutes (BMS Code), the emphasis has shifted towards establishing global objectives, formulating efficient approaches, creating networks, and formulating action plans to expedite and oversee advancement[48]. The BMS Code and subsequent World Health Assembly (WHA) resolutions garnered international attention towards the promotional practices of breast milk substitute (BMS) companies, with the aim of ensuring that information provided to mothers is suitable for them to make well-informed decisions regarding the usage of BMS products.[46] Eight years after the BMS code was adopted, the United Nations General Assembly recognized breastfeeding as a right of the child in the Convention on the Rights of the Child (CRC) of 1989, stated in Article 24, 2 (e)[46]: "To guarantee that all segments of society, especially parents and

children, are educated, have access to learning, and are supported in employing fundamental knowledge about child health and nutrition, the benefits of breastfeeding, hygiene and environmental cleanliness, and the prevention of accidents." The CRC has conveyed a powerful message that underscores the collective societal duty towards promoting breastfeeding[46].

Later on, in the year 2000, the Maternity Protection Convention number 183 was ratified by the International Labour Organization's (ILO) General Conference. This convention aimed to further gender equality in the workforce and enhances health safeguards for mothers and children through the implementation of national laws and regulations. In 2002, the Global Strategy for Infant and Young Child Feeding gained approval through the WHA resolution.

Subsequently, this significant achievement prompted countries to embrace the concept of six-month exclusive breastfeeding, recognized as a cost-effective intervention. In the year 2012, a comprehensive implementation plan aimed at maternal, infant, and young child nutrition was sanctioned through World Health Assembly resolution 65.6. This plan reasserted the importance of breastfeeding by introducing a breastfeeding target among the six global objectives for child nutrition. The goal was to have a minimum of 50% of children exclusively breastfed during the first 6 months. Networking and political advocacy have been focal points over the last five years, spanning from 2015 to 2020. In 2015, the Network for Global Monitoring and Support for Implementing BMS Code, known as NetCode, emerged as a key player in monitoring progress and facilitating the adoption of the BMS Code into national legislation. This was followed by the establishment of the Global Breastfeeding Collective in 2017, which provided technical, financial, emotional, and public support for breastfeeding through the promotion of the seven most recommended tools[51]. More recently, in 2018, WHO and UNICEF unveiled updated guidelines for the implementation of the Baby-Friendly Hospital Initiative. However, the 2019

Global Breastfeeding Collective report highlighted that only a limited number of countries had made progress in advocating for and implementing recommended breastfeeding policies and programs[52]. The initial focus in 1992 was on promoting breastfeeding through the establishment of the Baby-Friendly Hospital Initiative (BFHI)[47]. All public hospitals were encouraged to adhere to the "Ten Steps to Successful Breastfeeding." Various training activities and relevant information were disseminated to ensure hospitals' awareness and compliance. The BFHI was expanded nationwide in 1995 with the support of WHO and UNICEF. The Ministry of Public Health (MOPH) bolstered the BFHI, and nearly all public hospitals were accredited as BFHI hospitals by 1997. After three years of BFHI implementation, an evaluation demonstrated an improvement in breastfeeding rates, with a rise in predominant breastfeeding at four months from 19% in 1993 to 30% in 1998. In 2003, the MOPH introduced a national policy promoting exclusive breastfeeding for six months (previously targeted at four to 6 months) and continued breastfeeding up to 2 years of age or beyond, aligning with the recommendations of the Global Strategy for Infant and Young Child Feeding. Subsequently, a new national project known as the 'Family Love Bonding Project (FLBP), initiated in 2005 under royal patronage, aimed to encourage breastfeeding and child development. The Baby-Friendly Hospital Initiative was integrated as a core principle of the Family Love Bonding Project, which facilitated the establishment of lactation management systems, training for nurses and healthcare professionals, and the allocation of additional resources to support implementation.

According to the study conducted in Thailand, it was reported that a sub-district breastfeeding support program was introduced in 2006, engaging communities and village health volunteers in home visits and basic care for lactating mothers. Simultaneously, the 'Breastfeeding Corner in the Workplace Project' was initiated by the Department of Labour Protection and Welfare in

collaboration with the Department of Health and the Thai Breastfeeding Center Foundation. The project aimed not only to support breastfeeding for working mothers through designated spaces but also to raise employers' awareness about the value and cost-effectiveness of six-month exclusive breastfeeding. The project gained widespread recognition and cross-sectoral support through a Memorandum of Understanding (MOU) signed by seven ministries and organizations in 2016. Currently, more than 1000 workplaces have established breastfeeding corners. These initiatives have contributed to shaping public perception, emphasizing that breastfeeding requires collective action from society, rather than being solely the responsibility of mothers.

Regarding breastfeeding protection, the MOPH initially adopted the BMS Code as a voluntary measure in 1984, later updating it to the second Thai Code in 1995 as part of BFHI guidelines to promote adherence to the Code among healthcare professionals. The third Thai Code, issued through a Ministerial Notification in 2008, prohibited all marketing promotions of BMS products in public health facilities. These three non-binding voluntary Codes were eventually replaced by legislation, the Control of Marketing Promotion of Infant and Young Child Food Act, B.E. 2560, enacted in 2017. The Labour Protection Act B.E. 2541 was introduced in 1998, providing 90-day maternity leave for female employees. This paid maternity leave was later extended to 98 days in compliance with the minimum requirement of the Maternity Protection Convention number 183, through an amendment to the Labour Protection Act B.E. 2562.

World Health Organisation and UNICEF in 1991 initiated the BFHI to enable newborn start life on the right tract, creating a health care environment that supports breastfeeding. This initiative is to promote and facilitate hospitals and health facilities; given them, the framework to helping and encouraging mothers in achieving successful breastfeeding practices. The first two steps of the ten steps to successful breastfeeding, are critical management procedures to support

breastfeeding, Hospital policies and Staff competency, while step 3-10 are key clinical practices to support breastfeeding, antenatal care, Care right after birth, Support mothers with breastfeeding, Supplementing, Rooming-in, Responsive Feeding, Bottles, teats, and pacifiers, and Discharge. This is to protect, promote and support breastfeeding and alongside ensuring that health care workers/provider have the knowledge, competence and skills to support breastfeeding[47]. Healthcare providers were perceived as custodian of breastfeeding information, but sometimes discouraged breastfeeding, given rise to the distrust of the information and recommendations given by them, which make mothers to rely more on peers and relatives.[55] The breastfeeding support professional in the hospitals will strengthening women's self-confidence and right outlook to achieve their breastfeeding goal to the benefit of their baby and themselves[52].

In response to public pressure, various government health departments have acknowledged the significance of promoting breastfeeding among mothers. The introduction of mandatory baby changing facilities marked a significant step towards enhancing accessibility for parents in public spaces. Many countries have enacted laws to safeguard the rights of breastfeeding mothers when nursing their children in public. The World Health Organization (WHO) and grassroots non-governmental organizations like the International Baby Food Action Network (IBFAN) have played instrumental roles in advocating for the promotion of breastfeeding by urging government departments to take action.[15,16] Following their guidance, national breastfeeding strategies have been developed, focusing on highlighting the benefits of breastfeeding and encouraging mothers, particularly those under the age of 25, to choose breast milk as the preferred feeding method for their infants[15].

2.3.3 Laws and Legislation Supporting Breastfeeding:

1. International Code of Marketing of Breast-milk Substitutes: The International Code, adopted by the World Health Assembly, provides guidelines to regulate the marketing of breast-milk substitutes and ensure that breastfeeding is not undermined by inappropriate promotion of formula milk[15].

2. Maternity Protection Laws: Many countries have enacted maternity protection laws that guarantee breastfeeding breaks and support for working mothers. These laws often provide paid maternity leave, provisions for breastfeeding breaks, and protection against discrimination in the workplace[16].

3. Baby-Friendly Hospital Initiative (BFHI): The BFHI is a global program by the World Health Organization and UNICEF that encourages hospitals and healthcare facilities to follow specific practices to support breastfeeding, including implementing the Ten Steps to Successful Breastfeeding[17].

2.3.4 Classifications and Guidelines for Breastfeeding

According to WHO, nearly all mothers, except for a few exceptions, are eligible to breastfeed their children.[19] However, certain health conditions in infants or mothers can justify the absence of breastfeeding. Infants with very low birth weight (less than 1,500 grams), very preterm babies (born before the 32nd week of pregnancy), and those in need of extra glucose may face obstacles to breastfeeding[20]. Additionally, mothers with human immunodeficiency virus (HIV) or severe illnesses that prevent them from caring for their baby, such as sepsis, may choose to avoid or temporarily halt breastfeeding. If these health conditions are not present, mothers are advised to follow international guidelines for breastfeeding[20]. These guidelines includes: initiating

breastfeeding within the first hour of labor (early initiation of breastfeeding), exclusively breastfeeding the infant for the first six months of life and continuing breastfeeding along with appropriate complementary feeding until the age of two or beyond. Each component of these guidelines offers unique benefits for the child's early childhood and future health outcomes[21].

It was reported that according to the WHO definitions, there are four major classifications of breastfeeding and these includes[18]:

- exclusive breastfeeding: Feeding on breast milk or expressed breast milk only, excluding water, breast milk substitutes, other liquids and solid foods. Oral rehydrating solution, vitamin drops, minerals, and medicines may be given.
- predominant breastfeeding: Feeding on breast milk or expressed breast milk with other liquids (including water), semi-solid and solid meals. Oral rehydrating solution, vitamin drops, minerals, and medicines may be given.
- complementary breastfeeding: Feeding on breast milk or expressed milk or milk from a wet nurse, as well as on solid or semi-solid foods. There is no restriction, anything – food, liquid, non-human milk – may be given.
- any breastfeeding: Feeding on breast milk or expressed breast milk or from a wet nurse with any liquids or foods, including formula or non-human milk.

2.3.5 The Determinants of the Early Initiation and Duration of Breastfeeding

Timely initiation of breastfeeding, which involves initiating breastfeeding within the first hour after delivery, plays a crucial role in saving newborn lives during the neonatal period (the first 28 days of life). Delaying the initiation of breastfeeding increases the risk of neonatal deaths and

life-threatening consequences. Research indicates that infants breastfed between 2 and 23 hours after birth have a higher likelihood of mortality compared to those breastfed within the first hour. Furthermore, waiting more than 24 hours further escalates the risk of death.

The duration of breastfeeding is also of utmost importance in maximizing its benefits. Continuing breastfeeding until the child reaches 24 months of age or beyond, along with appropriate complementary feeding, offers advantages for both the mother and child. Extended breastfeeding supports the development of the child's immune system, cognitive abilities, and behavioral outcomes while reducing the risk of certain diseases for both the mother and child.

Various factors have been identified as significant determinants of timely initiation of breastfeeding and its duration, including ethnicity, occupation, place of birth, mode of delivery, spousal and family support, and education. These factors play a role in shaping breastfeeding practices. Some of these factors are discussed below:

- Maternal Age

  The age of mothers at the time of giving birth is an important factor that affects how long and how exclusively they breastfeed their babies. However, it is difficult to find consistent evidence regarding the relationship between maternal age and breastfeeding practices. Some early studies suggest that women who become mothers at a later age, particularly after the age of 35, are more likely to stop breastfeeding, including exclusive breastfeeding, earlier compared to women who become mothers in their early 20s[63]. On the other hand, research indicates that younger mothers, below the age of 30, are at a higher risk of weaning their babies earlier compared to mothers who are above 30 years old[61]. Unlike the varying results for breastfeeding duration, there is more conclusive evidence regarding the

impact of maternal age on exclusive breastfeeding. Several studies from different countries suggest that the likelihood of exclusively breastfeeding infants for the first six months of life increases with the age of the mothers, generally after the age of 30[54]. However, some studies identify a specific age, such as 25 years old, as a barrier to maintaining exclusive breastfeeding for six months[61].

The presence of inconsistent findings regarding breastfeeding duration implies that there may be other factors, which differ depending on the mother's age, that contribute to the length of breastfeeding. For example, studies have considered factors such as sudden nipple mastitis and nipple fissure, which tend to occur more frequently after the age of 30, particularly within the four weeks after delivery. The World Health Organization (WHO) reports that around 10% of lactating women worldwide develop mastitis[30]. these factors can discourage mothers from breastfeeding if they do not receive timely treatment. Therefore, medical literature recommends considering these mother-related factors when studying the effect of maternal age on breastfeeding duration. However, the data collected by the TDHS (presumably referring to Tanzanian Demographic and Health Survey) does not include information on whether and when mothers experience post-natal infections.[35] As a result, it is not possible to account for the presence of breast infections, which become more common with age, in the analysis[35].

Numerous studies suggest that mothers with higher levels of education are more likely to have knowledge about the health benefits of breastfeeding and are therefore more inclined to practice it[40]. However, it would be inaccurate to claim that there is always a positive association between the duration of breastfeeding and maternal education. While many earlier studies indicate that increased maternal education leads to a delay in weaning, there

are also studies that reach different conclusions. Additionally, some research suggests that there is no relationship between maternal education and breastfeeding duration[26,45]. Similarly, inconsistent findings are observed regarding exclusive breastfeeding practices, even in countries with similar income levels. For instance, in Ghana, mothers with tertiary education are found to be less adherent to exclusive breastfeeding compared to those with a secondary school diploma[55]. However, studies in Bangladesh and China show contradictory results, indicating that children of less-educated mothers fare worse nutritionally than those of better-educated mothers[25]. Some findings even suggest a U-shaped relationship between maternal education and exclusive breastfeeding, where the prevalence of exclusive breastfeeding increases among primary school graduates, decreases among secondary school graduates, and then increases again among those with higher levels of education[36].

- Employment Status

Employment status is another significant factor that affects both the commitment to exclusive breastfeeding and its duration. Mothers who are in the labor force face challenges in maintaining breastfeeding, leading to shorter durations[67]. The lack of adequate maternity benefits and support for breastfeeding in the workplace further exacerbates this issue, with approximately 60% of mothers worldwide being deprived of such benefits[67]. Employed mothers often have less time to spend with their children, impacting both breastfeeding duration and exclusive breastfeeding practices, additionally, the opportunity cost of time increases for employed mothers, particularly those with higher educational attainment, as they may prioritize returning to work and earning more over extended breastfeeding[26,40]. However, considering the confounding factors that affect both employment status and

children's health outcomes, it is challenging to include mothers' employment status in empirical investigations.

- Antenatal Care

  Receiving proper guidance on breastfeeding during prenatal care has the potential to greatly enhance breastfeeding practices[69]. Attending antenatal care plays a crucial role in influencing infant feeding practices[68]. The utilization of antenatal care services increases the probability of initiating breastfeeding early. Conversely, mothers who did not attend antenatal clinics during pregnancy may experience difficulties in initiating breastfeeding and maintaining exclusive breastfeeding[69].

- Mode of Delivery

  The mode of delivery of the mothers, specifically cesarean section (CS), has a significant impact on breastfeeding practices. Vaginal birth is generally more favorable for breastfeeding, as it promotes exclusive breastfeeding for the first six months and continued breastfeeding with appropriate complementary feeding[69]. A recent study conducted by UNICEF in 120 countries found that the proportion of children who are breastfed at some point during infancy is similar in low- and middle-income countries. On average, only 3.90% of children in these countries have never consumed breast milk, meaning that almost 95.0% of infants are breastfed. This aligns with the data from Turkey, where the percentage of children under five who are never breastfed is estimated to be only 1.94% according to the Turkish Demographic and Health Surveys conducted in 2008 and 2013. However, when it comes to high-income countries, the rates of breastfeeding vary greatly, with some countries like the United States and Ireland having low rates of breastfeeding (75.0% and

55.0% respectively), while countries like Sweden and Uruguay have high rates with almost all infants receiving breast milk at least once.

- Level of Household Income

The duration of breastfeeding is found to be influenced by household income, as highlighted by UNICEF[64]. Interestingly, the evidence shows that women living in high-income countries but residing in low-income households are more likely to wean their children earlier, while women in low- and middle-income countries but residing in high-income households are more likely to wean their children earlier as well. In the poorest households in low- and middle-income countries, nearly 65.0% of toddlers are breastfed until the age of two, compared to only 40.0% in the richest households[64]. In Middle Eastern countries, there is an estimated 12.0% gap in breastfeeding duration between the wealthiest and poorest households. Previous research supports UNICEF's findings on breastfeeding duration[64]. A study from Iran, classified as a middle-income country, suggests that household wealth is a significant predictor of the duration of breastfeeding. Infants from the wealthiest households in Iran receive breast milk for a shorter duration compared to their counterparts from poorer households. A longitudinal analysis of Canadian babies conducted from 1998 to 2002 also indicates a negative association between family income and breastfeeding duration, with children from wealthier households experiencing shorter breastfeeding periods. These patterns in breastfeeding duration in high-income countries are often attributed to differences in government interventions to promote breastfeeding, which typically target low-income households. However, the generalizability of these findings is debatable, as there are studies suggesting the opposite relationship. For example,

some studies argue that there is a positive association between family income and breastfeeding duration for American mothers living in California.

The existing empirical evidence regarding the effect of household wealth on exclusive breastfeeding until six months of age is inconclusive, because, some studies suggest that low-income households are more likely to adhere to exclusive breastfeeding. For instance, research in Saudi Arabia shows that mothers in low-income households are more committed to exclusive breastfeeding[65]. Similar findings have been reported in medical literature from various countries, indicating that the propensity for exclusive breastfeeding is higher in poorer households[66]. This may be due to financial constraints that prevent mothers from purchasing infant formula or alternative milk products. On the other hand, there are studies that suggest an increased likelihood of exclusive breastfeeding in high-income households. These studies propose that higher income levels provide more exposure to media campaigns and advertisements promoting exclusive breastfeeding, which in turn enhances knowledge about its benefits.

2.3.6 Global Knowledge and Practice of Exclusive Breastfeeding

Currently, the global exclusive breastfeeding rate stands at 44% for infants under 6 months, and only 35 countries are meeting the target for exclusive breastfeeding[46]. The practice of breastfeeding is influenced by a complex interplay of social determinants of health. To effectively promote breastfeeding, a multi-level approach is essential, encompassing policy initiatives, health system support, and community and family engagement[46]. One of the operational goals outlined in the Global Strategy for Infant and Young Child Feeding is the universal adoption of the Baby-Friendly Hospital Initiative (BFHI), which includes adherence to

the Ten Steps to Successful Breastfeeding. Hospitals or maternity facilities achieve Baby-Friendly status after undergoing an external evaluation to ensure compliance with these steps and the International Code of Marketing of Breastmilk Substitutes, along with relevant World Health Assembly resolutions (the Code)[46]. The Ten Steps, last updated in 2018, now emphasize broader coverage, sustainability, and integration within healthcare systems[46]. Despite widespread adoption, global coverage of BFHI facilities remains limited, with just 10% of infants born in such facilities as of 2017[46]. Extending the reach of the BFHI, the Baby-Friendly Community Initiative (BFCI) builds upon the 10th step of the Ten Steps to Successful Breastfeeding and the broader BFHI framework. Its primary focus is to provide community-based breastfeeding support for women. Given the typically brief postpartum stays in healthcare facilities, the 10th step and associated initiatives are vital for sustaining breastfeeding support beyond the initial days following childbirth, while nearly all countries worldwide have implemented the BFHI at some point, it appears that the adoption of the BFCI has been more prevalent in a smaller set of countries. This includes low- and middle-income countries (LMICs) like Kenya, Cambodia, and Gambia, as well as high-income countries (HICs) such as Italy and the UK. In order to successfully implement the Baby-Friendly Hospital Initiative (BFHI), numerous studies have underscored the vital importance of effective and visible national leadership, substantiated through legislation, funding, and policy measures. At the national level, the significance of legislative actions related to the International Code of Marketing of Breastmilk Substitutes, executive support, fostering a culture of support, and allocating sufficient resources for the adoption and execution of BFHI were prominently featured in an Australian study. This study highlighted a notable absence of substantial government support for further advancing BFHI and endorsing the Code.

Enabling factors, such as endorsements from local administrators and governmental policymakers and the presence of effective leadership in driving the process of practice change, were identified in a comprehensive review spanning various countries. Governmental recognition and active support for the BFHI emerged as the most frequently reported facilitator at the socio-political level. Furthermore, UNICEF-dedicated regional coordinators were singled out as instrumental political-level facilitators in Croatia, the USA, and Brazil. Specific interventions and strategies that demonstrated effectiveness at the national level included a national collaborative initiative led by the National Institute for Children's Health Quality, designed to expedite the establishment of Baby-Friendly designated hospitals in the United States. Specific policy measures also held significance, such as in Sweden, where the national health insurance system allowed mothers to have unrestricted time with their newborns in the hospital, building upon an already strong pro-breastfeeding culture. In Brazil, it was recognized as essential to stimulate specific strategies through government policies, including continuous internal evaluation through quality improvement projects or self-audits. Additionally, in Brazil, offering financial incentives to hospitals achieving Baby-Friendly Hospital status was underscored as crucial.

Promotion of social learning opportunities encompassed creating breastfeeding-friendly environments to encourage public breastfeeding and facilitating interactions between breastfeeding women and expectant mothers. New Zealand achieved improvements through the establishment of a national body with oversight of BFHI facilities, actively promoting Maori and consumer involvement at all levels. This study also emphasized the necessity of re-certification requirements for midwives in breastfeeding education by the Midwifery Council and the presence of paid BFHI coordinators in maternity facilities as other pivotal enabling factors.

Legislative efforts, such as those in California, mandating that all birthing hospitals adopt the BFHI by 2025, proved effective at elevating BFHI designation levels[46].

Nonetheless, at the national level in Australia, barriers included a lack of uniformity in the perception of BFHI benefits across all levels of the healthcare system, resulting in varied BFHI adoption rates throughout the country. Additionally, Australia encountered complexities and protracted accreditation and re-accreditation processes, intricately linked to the diverse sizes of healthcare facilities and geographical considerations. Studies conducted in Canada, the USA, and Australia have extensively examined the implementation of the Baby-Friendly Hospital Initiative (BFHI) in neonatal care settings at the hospital level. These studies have highlighted crucial factors that enable the implementation of BFHI in neonatal contexts.

In a US study, specific factors that supported the implementation of BFHI in neonatal care included providing additional assistance to women who were separated from their infants, creating a breastfeeding-friendly environment and eliminating formula advertising within the hospital and the neonatal intensive care unit (NICU), and establishing a support system for mothers after their discharge. Another study from Australia expanded upon the challenges specific to NICUs, describing how women and their newborns were often treated and considered separately, making it challenging to maintain their interdependence[95]. Benoit & Semenic also highlighted this separation in the Canadian context, where factors such as infant health, the lack of breastfeeding support, and knowledge acted as barriers to BFHI implementation.

An Expert Group from the Nordic countries and Canada suggested the addition of three guiding principles to support this vulnerable population of mothers and infants in neonatal care settings. Regarding the Baby-Friendly Community Initiative (BFCI), limited evidence is available, with only nine studies covering Kenya, Italy, and Turkey. In Italy, concurrent counseling or education

provided in various settings was found to be the most effective approach. Additionally, the presence of a national working group was deemed important in Italy. In Kenya, BFCI implementation had positive impacts on complementary feeding practices, including weaning and dietary diversity. Key enablers in Kenya's national framework included capacity building, mentorship, integration, social mobilization, and supervision, with a strong emphasis on integration. The community basis of Step 10 of the BFHI itself was considered critical for sustaining improvements and a lack of community services was identified as a barrier to progress[46].

Across various studies, recommendations for practice and policy were highlighted at different levels and settings:

- At the national level, political enforcement and support for BFHI implementation can aid in expanding the designation of Baby-Friendly Hospitals[46]. National standards were seen as critical, and incorporating BFHI principles and tools into national standards for healthcare facility accreditation was deemed important[46]. Recognizing and evaluating incremental improvements in breastfeeding-related maternity care practices was emphasized.
- Extending BFHI implementation to the private sector was recommended, alongside advocating for additional government resources to support the scale-up of BFCI.
- National awareness campaigns were suggested, and there was an emphasis on linking the implementation of BFCI and BFHI to ensure a continuum of care for breastfeeding counseling and support, from facilities to communities.

- Community involvement in providing appropriate support was recognized, including support groups and community-based counselors. Encouraging the formation of mother-to-mother support groups was recommended, with a focus on having all relevant community providers achieve Baby-Friendly Community Initiative accreditation.
- Wider use of indices like the World Breastfeeding Trends Index and the Becoming Breastfeeding Friendly Index would contribute to the scaling up of BFHI. Culturally sensitive breastfeeding education was identified as a need, along with considerations for the socioeconomic status of communities and the provision of language translation services[46].
- In Jordan, the study highlighted the importance of examining how infant gender affects women's breastfeeding choices and practices.
- In low- and middle-income countries (LMICs), diversifying funding sources and forming partnerships for BFHI should be explored to ensure continued funding, with a focus on increasing government commitments.

It has been reported that the practice of exclusive breastfeeding is notably low among both women who deliver at health facilities and those who do so outside these facilities. One contributing factor to this issue is the premature introduction of complementary feeding, driven by incorrect assumptions, which adversely impacts the promotion and sustainability of exclusive breastfeeding initiatives[92]. Within the Yoruba ethnic group, a prevalent belief concerning infant feeding is that exclusive breastfeeding is advantageous for both infants and mothers. The quality of exclusive breastfeeding practice is influenced by personal experiences and the support networks available[93]. Despite the existing body of knowledge on breastfeeding practices in

Nigeria, studies indicate that breastfeeding mothers often have limited agency within their socio-cultural contexts[93].

It was reported that breastfeeding experiences can vary widely among mothers. For some, breastfeeding can be exhausting, stressful, or satisfying, depending on personal circumstances and the surrounding support system. Therefore, the development of efficient and effective intervention initiatives that encourage the provision of quality support for nursing mothers requires concerted efforts from all stakeholders, extending beyond the healthcare system and hospital settings[95]. In industrialized countries, many working mothers opt not to breastfeed due to workforce demands and limited maternity leave periods[100]. The need to schedule breastfeeding on demand can be inconvenient for mothers and may lead some to discontinue exclusive breastfeeding in favor of infant formula and solid foods[94]. Based on the findings of this study, it can be concluded that exclusive breastfeeding is still feasible among nursing mothers, regardless of their level of education, family income, occupation, employment opportunities, or religion. However, the practice of exclusive breastfeeding remains low among educated individuals and those who are employed. Therefore, there is an urgent need for policies aimed at enhancing exclusive breastfeeding rates, and these policies should also involve significant others, such as husbands, in the process of encouraging breastfeeding mothers. Additionally, the health sector should make substantial improvements in working conditions and empower healthcare providers to deliver improved care[95].

Four weeks after discharge, all 18 mothers who had practiced exclusive breastfeeding (EBF) at the time of discharge reported that they were still predominantly breastfeeding or exclusively breastfeeding. However, they also discussed a range of challenges they faced in maintaining EBF in their home environment. These challenges encompass concerns about insufficient milk supply,

the ability to accurately replicate what they had learned in the hospital, coping with the technical aspects and social stigma of expressing breast milk, and seeking support from family and community members for EBF. While some of these issues align with findings from prior studies on EBF challenges in well infants, this study uncovered additional concerns related to the infant's hospitalization and the context in which efforts to re-establish EBF occurred. This suggests that while many mothers strongly desired the continuity of EBF, these desires were hindered by the change in context. The data indicates that for many mothers, breastfeeding and breast milk, which are inherently natural processes, underwent a transformation into the realm of the biomedical during their time in the hospital. Attention became focused on breast milk as a medicinal substance that needed to be measured, expressed, and kept sterile, rather than being viewed as the product of an intimate bonding process between mother and child. Tacit knowledge, such as recognizing when a child is satisfied, was not explicitly valued within this conceptualization of breastfeeding, even though some mothers continued to use it in their feeding practices.

The findings from a study emphasized that when mothers transitioned from the artificial hospital environment to their everyday lives, the interplay between their lived realities and the practices they had acquired in the hospital became a critical factor in whether they could maintain EBF. Understanding and dissecting these interactions is essential for improving support for EBF. A socio-ecological framework may provide a useful lens for comprehending the underlying causes of barriers and obstacles to EBF, integrating them with a broader set of environmental, socio-economic, and cultural factors that operate at individual, group, and societal levels. For example, the perception of insufficient milk is a common reason women give for discontinuing breastfeeding, despite physiological milk production issues being present in less than 5% of

women. The perception of insufficient milk may be a proxy for various socio-ecological issues, such as stress related to food or income insecurity, or the pain, physical discomfort, and stigma associated with breastfeeding or expressing breast milk.

Numerous studies on EBF barriers cite the influence of community elders, typically grandmothers and older mothers, as having a negative impact on EBF, especially among first-time mothers. In cases where fathers are relatively absent from caregiving practices, maternal elders often serve as the primary source of support and knowledge for breastfeeding mothers. They may also assume caregiving roles when mothers return to work, exerting significant influence over feeding practices. This presents a challenging dilemma for EBF promotion. Changing the dynamics of family, community, and social support available to EBF mothers may depend largely on fostering social and cultural acceptance of EBF through community engagement and meetings, as suggested by many mothers in the study[100]. However, it is arguable that these shifts may also require changes in other social and economic factors that drive behavioral and attitudinal change. By considering possible changes in aspects such as gender dynamics, maternal autonomy, food security, and the division of caregiving labor within families, future interventions may be better equipped to garner support for EBF among family and community members. In essence, it is crucial to address social and structural barriers to EBF to determine effective ways to expand support for exclusively breastfeeding mothers and distribute responsibility for achieving EBF to fathers, other caregivers, and the broader community[98]. Despite the strong desire of the nursing mothers to exclusively breastfeed their babies, maintaining exclusive breastfeeding (EBF) post-discharge can prove challenging for mothers whose infants have been hospitalized due to malnutrition[100]. Many of the day-to-day obstacles they encounter at home are not easily overcome, even with the knowledge and practices they

acquire during their hospital stay, in which the hospital environment itself may contribute to some of these challenges by potentially emphasizing breastfeeding techniques, thus impeding the continuity of EBF at home. In order to enhance the prospects of continued EBF post-discharge, it is advisable to broaden EBF promotion efforts beyond pregnant women and mothers. This expansion should encompass fathers and other caregivers, particularly elder women who play a vital role in transmitting knowledge about child care and nutrition to younger mothers[97]. These collective efforts can help create a more supportive environment for sustained EBF. The data underscores the pivotal roles that family and community members play as sources of support and influence in a mother's ability to practice EBF. This valuable network should be harnessed in future EBF promotion initiatives, which should extend beyond hospital settings and take place within communities[100].

Globally, less than 40% of infants aged 0 to 6 months are exclusively breastfed which is way below the 2030 global target of 70%[34]. Findings have indicated that non-exclusive breastfeeding contributes to 11.6% of mortality in children under 5 years of age[29]. Statistics from WHO reveals that low- to middle-income countries have 95% of births to mothers below 20 years of age, and the highest rates occur in sub-Saharan Africa.[30] Nonetheless, optimal breastfeeding has the potential to save over 820,000 children under the age of 5 years each year[30].

It has been reported that high maternal education was significantly associated with good practice of breastfeeding as has been reported in several studies[34,36]. The more educated a woman is, the more likely she is to have access to health information which can influence the practice of health promoting behaviours including adequate breastfeeding practices.

According to the study carried out in Nigeria, on assessment of breastfeeding knowledge and practices among working mothers in the Federal Capital Territory, it was reported that majority of respondents knew that the ideal time of initiation of breast feeding was within one hour of birth and almost all the respondents had heard of exclusive breast feeding, more than three-quarters of the respondents had good overall knowledge score of breast feeding[35]. Though more than three-quarters of the respondents reported practicing exclusive breast feeding with their last baby, just above half of them correctly practiced it for six months with their last babies.[35] Poor breastfeeding practices which includes not exclusively breastfeeding babies for the first six months of life and early introduction of complementary feeds before six months predispose infants to diarrheal and respiratory diseases[29]. The introduction of complementary feeds before six months of age is associated with increased incidence of neonatal and infant morbidity and mortality while late introduction puts the infant at risk of under-nutrition and poor growth[29].

In a study conducted among employed mothers in Ethiopia, About 92.1% of them had good knowledge towards exclusive breastfeeding, but only 38.5% of the respondents practiced exclusive breastfeeding which is much lower than the WHO recommendation on exclusive breastfeeding, this low outturn maybe attributed to lack of breastfeeding centers at the working place and no enough time for maternity leave[71]. According to a study conducted in Ethiopia, about 92.1% of respondents had good knowledge about exclusive breastfeeding and Majority (90.9%) affirmed that breastfeeding aids the bond between mothers and their babies[80]. Also majority of respondents (88.8%) fed colostrum soon after giving birth to their babies and about 85.1% of respondents started initiating breastfeeding with 0–6 hours of birth[80].

2.3.7 Practice of Exclusive Breastfeeding in Nigeria

Various initiatives and policies have been implemented globally to promote and support exclusive breastfeeding (EBF) due to its numerous health benefits. Nigeria, as a signatory to the International Code of Marketing Breast Milk Substitutes, has taken steps to enforce this policy through the National Agency for Food and Drug Administration and Control (NAFDAC).[18] The country has also introduced programs like the Baby-Friendly Hospital Initiative (BFHI), the National Policy on Food and Nutrition, and the National Policy on Infant and Young Child Feeding, all aimed at increasing EBF practices[6].

In Nigeria, the National Policy on Food and Nutrition provides maternity protection for nursing mothers in both public and private sectors. It encourages early initiation of breastfeeding within 30 minutes of childbirth and exclusive breastfeeding for the first six months, followed by appropriate complementary foods up to the age of two[46]. The policy also emphasizes the establishment of workplace crèches for organizations with more than 10 female employees and enforces existing regulations on maternity leave at all levels.[46] The Federal Government has approved 18 weeks of paid maternity leave, while some states like Lagos, Enugu, and Ekiti have considered extending it to 26 weeks for working nursing mothers.

Despite these efforts, Sub-Saharan Africa still faces high under-five mortality rates, with children being more than 15 times more likely to die before the age of five compared to high-income countries. A significant portion of these deaths could be prevented through access to simple and affordable interventions, including effective EBF practice[45]. Several factors such as living environment, socio-economic status, maternal education level, employment status, beliefs, and attitudes related to breastfeeding, and knowledge and availability of breast milk substitutes influence how women feed their infants and the duration of breastfeeding[59].

According to the research conducted in a semi-urban community in Nigeria, older maternal age, higher parity, delivery at a government facility, a positive family attitude towards EBF, and breastfeeding education from a government health facility were factors that determined EBF[71]. Other studies conducted in Nigeria reported high socioeconomic status, four or more antenatal visits, and living in the North Central geopolitical region as predictors of EBF[71]. Another study conducted among breastfeeding adolescents in Ibadan, Oyo State, it was reported that the measure of intention to practice EBF by the respondents was poor and not in line with the WHO recommendation, it can be inferred that age played a significant role in respondents' intention to breastfeed as younger respondents had poorer intention[73]. It was also observed that parents' level of education was instrumental in a good intention to breastfeed[54]. The higher the educational attainments, the better the intention. Furthermore, it was reported that although early, the choice to breastfeed is made in this stage and their breastfeeding practice rely largely on the information they had received concerning breastfeeding. It was further reported that greater part of the respondents found breastfeeding in the general public humiliating, this in turn affected the prevalence of exclusive breastfeeding[66].

In a study conducted among employed nursing mothers in F.C.T, Abuja, it was reported that high maternal education was significantly associated with good practice of breastfeeding, this shows that the more educated a woman is, the more likely she is to have access to health information which can influence the practice of health promoting behaviours including adequate breastfeeding practices[53]. It was further reported that employed nursing mothers especially bankers had barriers in practicing EBF due to highly demanding nature of their jobs which includes very early resumption time and late closing hours reported as barriers to optimum breastfeeding practice by some of the respondents, this is similar to another research conducted

among bankers in Mainland, Lagos[40]. Other barriers to optimal breastfeeding reported by the respondents of this study were poor partner and family support, no paid maternity leave, short maternity leave, non-availability of crèches in or near workplace, long working hours and no breastfeeding breaks. It was reported that though majority of the organizations observed had a breastfeeding policy, only about half of them gave adequate provision for an on-site crèche and maternity leave for more than twelve weeks[40,53].

In addition, according to the study reviewed on a ten-year trend of breastfeeding practice it was reported that mothers' age, religious affiliation, marital status, and educational attainment were associated with breast-feeding practices over the years, according to data aggregated in the south-west. It was found occupation was the major factor associated with exclusive breastfeeding in a combined population of working and non-working mothers[40].

2.3.8 Barriers to the effective practice of exclusive breastfeeding

Generally, the level of exclusive breastfeeding practice among employed mothers in the study area was low as compared with the World Health Organization (WHO) recommendation. Actual time to return to work has been report as a barrier to the practice of exclusive breastfeeding, study has also revealed that even though employed mothers who come back to work after maternity leave have good knowledge about the use of exclusive breastfeeding, they cannot practice it practically because such mothers may be forced to detach from their babies at working hours and introduce formula milk for their infants earlier[66]. Hence returning to work before 6 months is a major barrier to EBF for many employed nursing mothers. However, despite the challenges, it has been reported that some employed did continue EBF until 6 months because of their positive attitude regarding the benefits of EBF, similar findings are reported in a study

conducted among employed women in Malaysia found that the time of returning to work was a hindrance to EBF for some mothers but not for others[81].

The duration of maternal leave was also another important factor that could affect the duration of EBF, A study conducted in Pakistan among hospital nurses found shorter leave entitlements, which the nurses expected to returned back to work after 42 days of birth, hence this hinders the effective practice of exclusive breastfeeding[71].

According to the studies conducted in Rafsanjan, Iran to determine the relationship between maternal health literacy and their breastfeeding pattern, it was reported that there were no statistically significant association between maternal literacy and practice of breastfeeding due to overriding personal and social factors[17], however, the outcome of another study in Rawalpindi, Pakistan, reported that mothers with higher levels of education and those who had received guidelines on breastfeeding demonstrated improved knowledge and breastfeeding practices[18]. Thus, low educational attainment of the parents could be a barrier to the adoption of EBF practice.

Review of studies have shown that the pressure to resume work after delivery with no or very short maternity leave, lack of creches or lactation rooms at various workplaces across the country, and irregular electricity supply that could support pumping and storage of breast milk are obstacles to exclusive breastfeeding practice[40,82]. Evidence from a study which sought to evaluate the effectiveness of workplace lactation programs in the United States on breastfeeding practices which has shown that lactation rooms, social support and services such as the provision of breast pumps increased breastfeeding initiation, duration, and exclusivity[39].

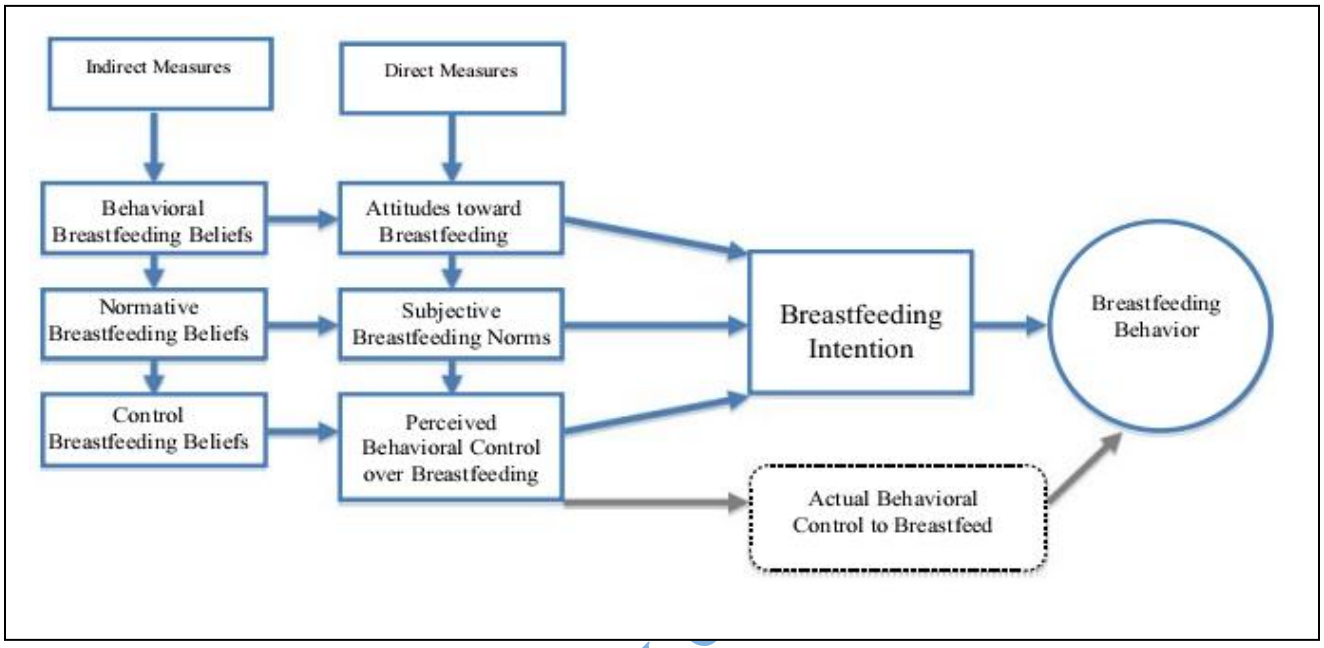
Delivery by Cesarean section as well as sore nipples and inadequate milk production are reasons why several mothers are unwilling to EBF their babies[69]. Besides, delivery by cesarean section has been a major obstacle to initiating breastfeeding within an hour of birth and to practice EBF optimally[22]. Breast engorgement is a physiological condition that is characterized by painful swelling of the breasts as a result of a sudden increase in milk volume, lymphatic and vascular congestion, and interstitial edema during the first two weeks following childbirth. This condition is caused by insufficient breastfeeding and/or obstruction in the milk ducts[83]. Besides, negligence of breast engorgement may lead to certain serious complication such as mastitis and breast abscess. A study reported that poor latching of babies, may cause the mother nipple pain and insufficiency of milk gotten by the baby, this usually makes the baby to stay on the breast for long periods and may lead to engorgement of breasts, which become heavier, firmer inconsistency, thus aggravating the pain[83].

Although the domain of breast milk production resides with mothers, it has been reported that support from spouses is a necessary ingredient for making EBF practice achievable.[84] Positive roles such as involvement in decision-making, knowledge and positive attitude, emotional and practical support for the practice. But when such support is insufficient or out rightly withheld, nursing mothers could easily become overwhelmed with domestic and official duties and would not be able to EBF their babies. This finding is consistent with the outcome of the study conducted in Thailand which reported that EBF may last for a short period of time in the absence of family support, especially the husband, to assist in childcare and to lessen the burden of house chores[85].

The psychological idea that breastfeeding could lead to saggy breasts and thus would make a woman less attractive to her husband is an obstacle to the adoption of EBF by several young

mothers in Nigeria especially the literate ones. This is a common misconception which serve as an obstacle to exclusive breastfeeding practice as several studies in different settings around the world have identified it as a barrier. Another factor reported as barrier to the practice of EBF is the stress and tiring nature of breastfeeding, some mothers found the activity stressful according to the study conducted in Tanzania[35].

2.4 Theoretical Framework (Model)



Theory of Planned Behavior regarding to breastfeeding[102]

2.5 Summary of Gaps in Literature Reviewed

Several studies have been conducted on knowledge, intention and practice of exclusive breastfeeding. The main objective of this study is to assess the knowledge, intention and actual practice of exclusive breastfeeding among employed nursing mothers, this research is unique because it recruited employed mothers working in private organizations. This is as a result of the fact that most nursing mothers employed in private organizations rarely have the privilege to practicing exclusive breastfeeding for six months due to the need to return back to work. Even though majority claimed to have the knowledge of exclusive breastfeeding less than 80% of the respondents had a good score about exclusive breastfeeding.

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Chapter Three

Methodology

3.1 Research Design

The research design adopted for this study is cross-sectional design. Self-administered questionnaire that was adapted from previous literatures was distributed to survey the knowledge, intention and practice of exclusive breastfeeding by employed nursing mothers in private organizations in Ibadan, Nigeria.

3.2 Study Area

Ibadan is the capital and most populous city of Oyo State, in Nigeria. It is the third-largest city by population in Nigeria after Lagos and Kano, with a total population of 3,649,000 as of 2021[4]. It is the country's largest city by geographical area. At the time of Nigeria's independence in 1960, Ibadan was the largest and most populous city in the country, and the second most populous in Africa behind Cairo. Ibadan is located in south-western Nigeria, 128 kilometers (80mi) inland northeast of Lagos and 530 kilometers (330 mi) southwest of Abuja, the federal capital. It is a prominent transit point between the coastal region and areas in the hinterland of the country. Ibadan had been the administrative center of the old Western Region since the early days of British colonial rule, and parts of the city's ancient protective walls still stand to this day.

There are eleven Local Governments in Ibadan Metropolitan area consisting of five urban local governments in the city and six semi-urban local governments. Local governments at present are institutions created by the military governments but recognized by the 1999 constitution and they are the third tiers of government in Nigeria. Local governments Councils consist of the

Executive Arm made up of the Executive Chairman, the Vice chairman, the Secretary and the Supervisory Councilors.[4] This study was conducted in some randomly selected private organizations in Ibadan metropolis, Oyo State. The study population for this consisted of all nursing mothers with babies between 0-24months who are working in the selected private organizations.

3.3 Population of Study

The study area selected for this research included private schools, banks and private hospitals in the urban centers of Ibadan, Oyo state, the organizations were selected because they are the notably prime areas where privately employed female can be found.

3.4 Sample and Sampling Technique

A convenience sampling method was used for this research. Sampling criteria included inclusion and exclusion criteria for sampling. Two hundred and fifty nursing mothers who met the inclusion criteria were selected for this project.

The minimum sample size was determined using the Fishers' formula[5] for the determination of sample size for descriptive studies that have a population greater than 10,000. The sample size for this study will be determined considering the following factors:

$$n = \frac{Z_{\alpha}^2 pq}{d^2}$$

. A standard normal deviate of 1.96

. 95% confidence interval

. Acceptable margin of error 5%

. Based on the Fisher's formula, that is

$$n = \frac{z^2 * p(1 - p)}{d^2}$$

Where: n - minimum sample size required

d - Is margin of error 5%

z - Confidence level 95%

p - Estimated proportion of women practicing exclusive breastfeeding 29% according to National Health Demography Survey, 2021[1]

$$n = \frac{(1.96)^2 * 0.29(1 - 0.29)}{(0.052)^2}$$

$$n = \frac{3.8416 * 0.29 * 0.71}{0.0025}$$

$$n = \frac{0.7500}{0.0025}$$

n = 316

3.5 Inclusion Criteria

Inclusion criteria for the sample were both married and unmarried nursing mothers with at least one living child of not older than 24 months who are employed in a private organization.

3.6 Exclusion Criteria

The exclusion criteria for the sample included lactating mothers having children with medical conditions that prevented the practice of EBF and nursing mothers with children older than 24 months, this is to avoid the recall biases that may occur as a result of longer years of occurrence

3.7 Description of the Research Instrument(s)

The research instrument for the study will be a self-administered questionnaire which was distributed to the employed nursing mothers in private organizations. The questionnaire was adopted from previous studies related to this research which includes:

- Section A: Socio-demographic data
- Section B: assessment of knowledge of exclusive breastfeeding among the employed nursing mothers in selected private organizations
- Section C: intention and practice of exclusive breastfeeding among the employed nursing mothers in selected private organizations

3.8 Validity and Reliability of the Research Instrument

The questionnaire for the study was adopted from previous related studies[5,6,7].

3.9 Method of Data Collection

The data was collected while administering the questionnaire to participants within the private organizations. The purpose of the study was introduced orally and informed consent was obtained from each participant prior to the process. The procedure for data collection from the participants was explained and questionnaires were shared.

3.10 Method of Data Analysis

Upon completion of data collection, statistical package for social sciences (SPSS version 21) was used for the analysis. Frequency distribution tables and descriptive statistics to achieve objectives one and two. A total question of 8 were fixed for assessment of knowledge, the scoring knowledge of exclusive breastfeeding was achieved by according a score of 1 to every correct response while 0 was scored for every incorrect response. The total score for each respondent was converted to percentages and graded as: poor knowledge (0-49.9%), fair knowledge (50-74.9%) and good knowledge (75% and above). The chi-square test was used to achieve objective three at significant value of $p \geq 0.05$, a multivariate analysis was done to ascertain the relationship between variables. Logistic regression was used to identify factors influencing practice of exclusive breastfeeding among employed nursing mothers.

3.11 Ethical Considerations

Ethical approval for this study was obtained from the Federal Ministry of Health Research Committee, Oyo State in fulfillment of the following:

- Voluntary participation
- Participation based on informed consent
- Privacy and anonymity of participants.

Endnotes

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Chapter Four

Results and Discussion of Findings

This chapter presents the result findings of the study. It includes socio-demographic characteristics of the respondents, respondents' knowledge of exclusive breastfeeding, intention of the respondents to practice exclusive breastfeeding, factors associated with the knowledge and practice of exclusive breastfeeding and factors influencing the respondents' practice of exclusive breastfeeding for six months.

4.1 Demographic Data Analysis

According to Table 4.1 which shows the percentage distribution of respondents according to background characteristics, it is revealed that majority of the respondents are between the ages of 30-34 years while only 26.4% falls under the ages of >34 years. The result showed that 87.6% of the respondents are practicing Christianity while others are practicing Islam. Majority (96.4%) of the respondents are Yoruba, while others are Non-Yoruba. It is also revealed that 96.4% of the respondents are married and majority (98.8%) of those that are married respondents had post-secondary education. The demographic result of this findings revealed that 34.8% of the respondents are working in the Academic while, only 12.0% are working in the banking sectors, the result also shows that 40% of the respondent are working 8 hours and 9-13 hours in a day while, only 20% are working between 5-7 hours.

Table 4.1: Percentage Distribution of Respondents according to Background Characteristics

Variable	Frequency N=250	Percent
Mean age of Babies	8.2±1.412	
Age		
<30	77	30.8
30-34	107	42.8
>34	66	26.4
Ethnic Group		
Yoruba	231	92.4
Non-Yoruba	19	7.6
Religion		
Christianity	219	87.6
Islam	31	12.4
Marital Status		
Non-Married	9	3.6
Married	241	96.4
If Married, Highest Educational Attainment of Partner		
Secondary School	3	1.2
Post-Secondary	238	98.8
Department		
Administrative	58	23.2

Banking	30	12.0
Others	75	30.0
Hours Spent At Workplace		
5-7 Hours	50	20.0
8 Hours	100	40.0
9-13 Hours	100	40.0

Source: Researcher's Field Survey 2023

4.2 Presentation of Result

4.2.1 Source of Information of Respondents

According to Figure 4.1: Percentage Distribution of Respondent's Source of Information, which shows that about 58.8% of the respondents heard about exclusive breastfeeding through health workers, while 9.2% heard through television, 5.6% heard through radio, 6.4% heard from relatives, 2.4% heard through friends while 10.8% heard from others.

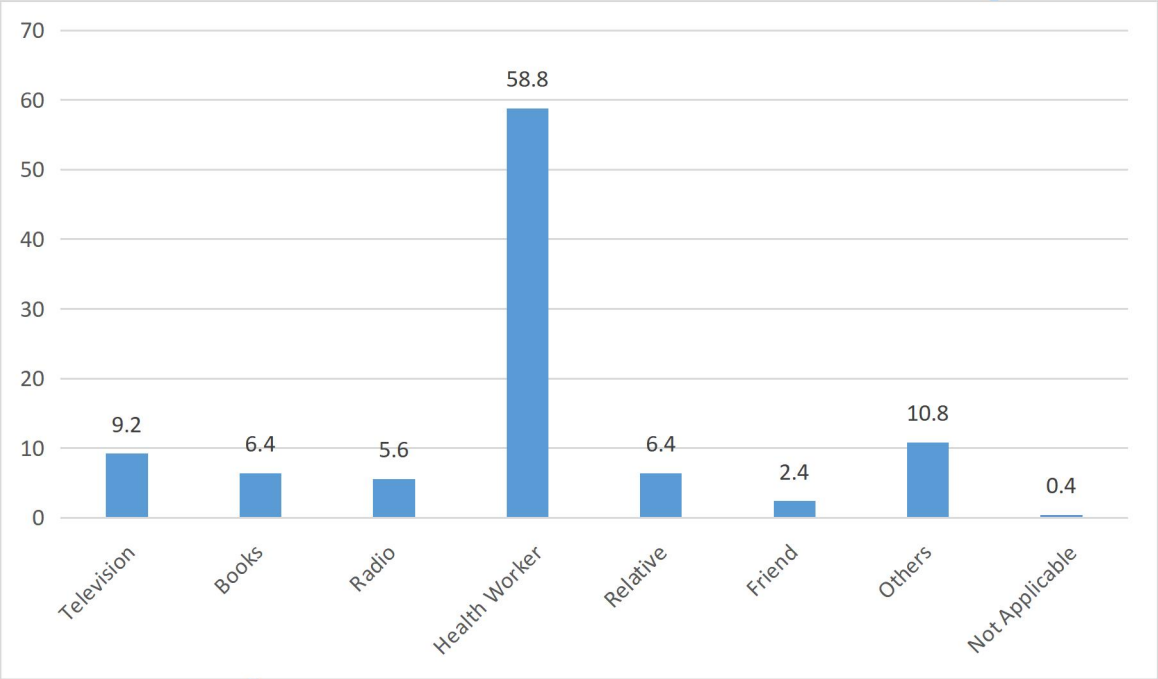

Figure 4.1: Percentage Distribution of Respondent's Source of Information

Source: Researcher's Field Survey (2023)

According to Table 4.2: Knowledge of Exclusive Breastfeeding among Employed Nursing Mothers**,** which shows that majority (93.6%) of the respondents answered correctly that the best food for a newborn is breast milk only while, 6.4% of the respondents answered the same question incorrectly. The result shows that 90.8% of the respondents answered correctly that babies who are breastfed exclusively tend to get fewer infections than babies who are fed with formula while, 9.2% answered the same question incorrectly. It is also shown from the result that 64.4% of the respondent answered correctly that feeding baby with formula milk protects the baby from having infection while 35.6% of the respondents answered the same question incorrectly. 52.8% of the respondents answered correctly that new born babies need breast milk for 3 months then introduction of formula afterwards while, 47.2% answered the same question incorrectly. The result shows that 71.6% of the respondents answered correctly that the baby fed exclusively with human milk does not need to take water or other foods during the first six months while 28.4% answered the same question incorrectly. Majority (73.6%) of the respondent answered correctly that a nursing mother should not try to breastfeed if she gave birth through caesarean section while, only 26.4% answered the same question incorrectly. 31.6% of the respondent answered correctly that a nursing mother shouldn't attempt practicing exclusive breastfeeding if she is planning to return to work after delivery while, 68.4% answered the same question incorrectly.

Table 4.2: Knowledge of Exclusive Breastfeeding among Employed Nursing Mothers.

Variables	Correct	Incorrect
The best food for a newborn is breast milk only	234(93.6%)	16(6.4%)
Babies who are breastfed exclusively tend to get fewer infections than babies who are fed with formula	187(74.8%)	63(25.2%)
Breastfeeding helps mother and child to have a special bonding	227(90.8%)	23(9.2%)
Feeding baby with formula milk protects the baby from having infection	161(64.4%)	89(35.6%)
New born babies need breast milk for 3 months then introduction of formula afterwards	132(52.8)	118(47.2%)
The baby fed exclusively with human milk does not need to take water or other foods during the first six months	179(71.6%)	71(28.4%)
A nursing mother should not try to breastfeed if she gave birth through caesarean section	184(73.6%)	66(26.4%)
A nursing mother shouldn't attempt practicing exclusive breastfeeding if she is planning to return to work after delivery	79(31.6%)	171(68.4%)

Source: Researcher's Field Survey (2023)

According to Figure 4.2: Knowledge score of Exclusive Breastfeeding among Employed Nursing Mothers, which shows that majority (74.5%) of the respondents have good knowledge of exclusive breastfeeding while 25.5% have poor knowledge about exclusive breastfeeding.

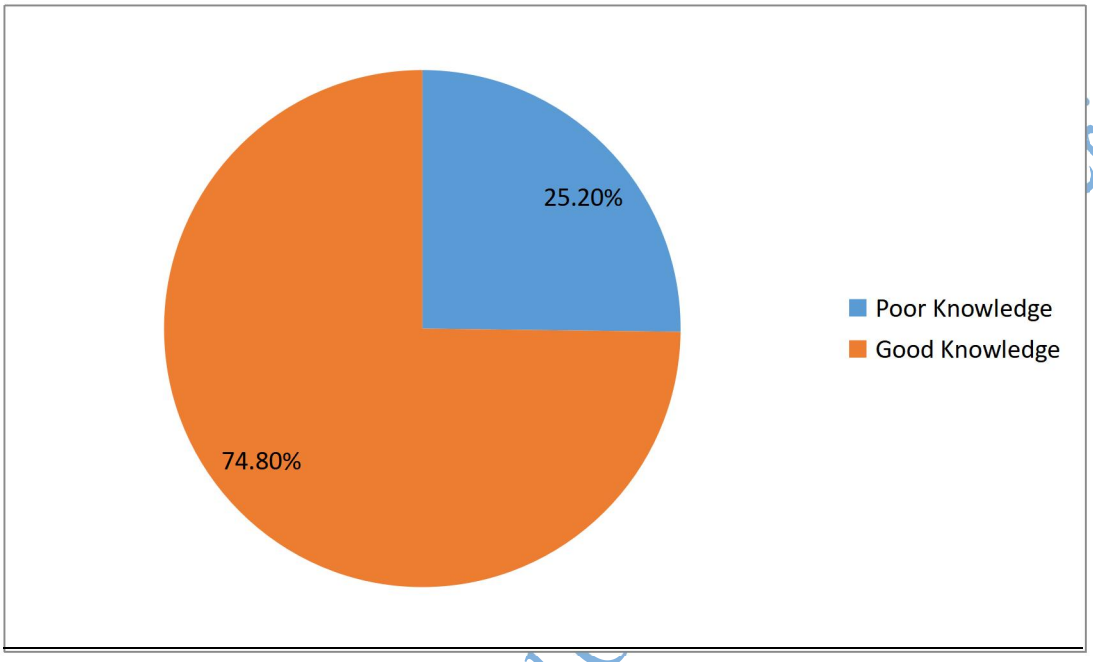

Figure 4.2: Knowledge of Exclusive Breastfeeding among Employed Nursing Mothers

Source: Researcher's Field Survey (2023)

According to Figure 4.3: Intention and Practice Exclusive Breastfeeding, which shows that 21.2% of the respondent intended to practice exclusive breastfeeding for less than six months but only 48.8% actually practiced it for <6months. Also, 78.8% of the respondent intended to practice exclusive breastfeeding for six months but only 51.2% actually practiced it for 6 months.

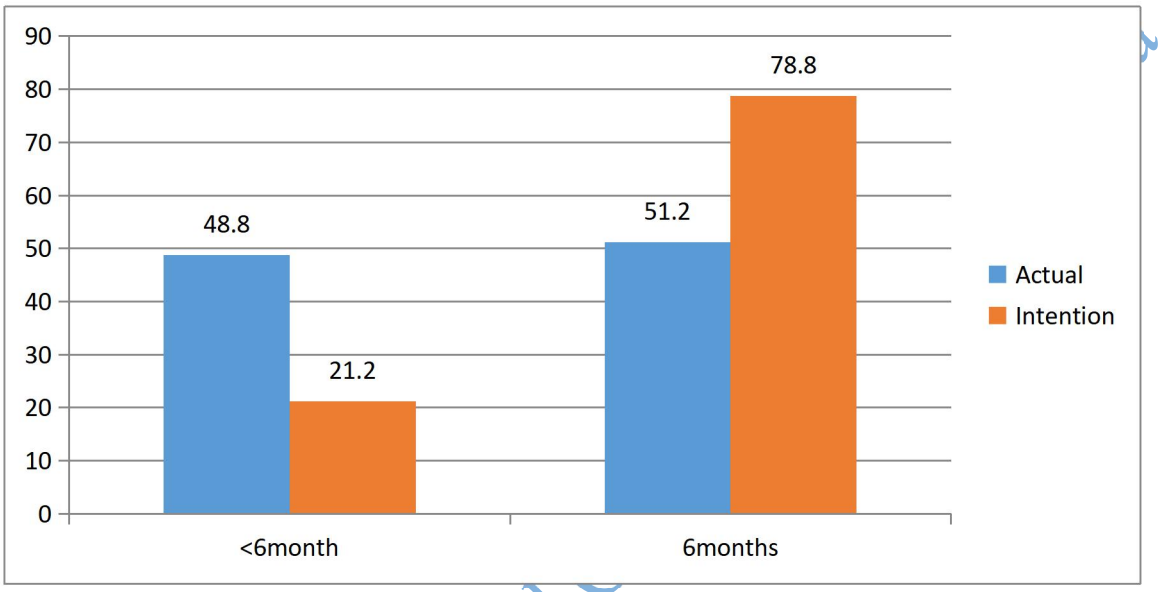

Figure 4.3: Intention and Practice Exclusive Breastfeeding

Source: Researcher's Field Survey (2023)

According to Figure 4.4: Reasons why Respondent did not Practice Exclusive Breastfeeding, which shows that majority (55.7%) of the respondents did not practice exclusive breastfeeding because of short maternal leave period, while only 4.9% did not practice exclusive breastfeeding because their baby refused to suck.

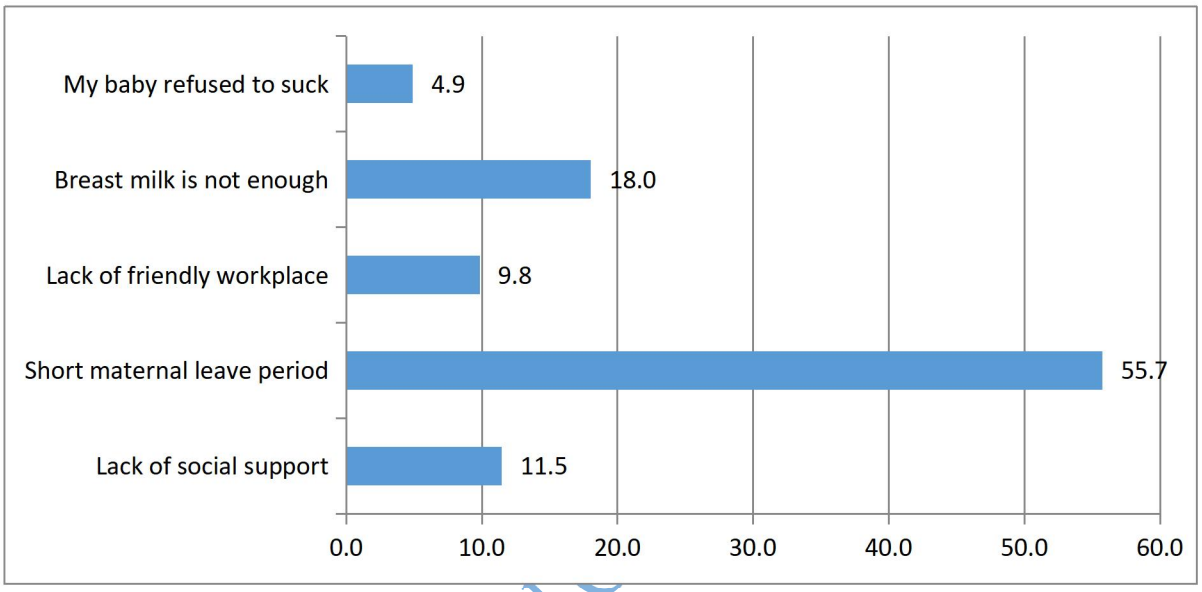

Figure 4.4: Reasons why Respondent did not Practice Exclusive Breastfeeding

Source: Researcher's Field Survey (2023)

4.2.2 Factors Associated with the Practice of Exclusive Breastfeeding for Six Months

According to Table 4.3: Factors Associated with the Practice of Exclusive Breastfeeding for Six Months, it was revealed that there is no significant association between religion, ethnic group, age, highest educational attainment, marital status of respondents and practice of exclusive breastfeeding at P-value of 0.137, 0.897, 0.571, and 0.680 respectively. The result shows that there is significant association between knowledge of exclusive breastfeeding and practice of exclusive breastfeeding at P-value of <0.001, although less than 30% of the respondents who had good knowledge practiced EBF for six months, respondent's department, partner's support on exclusive breastfeeding were significantly associated with the practice of exclusive breastfeeding at at P-value <0.001 and <0.001 respectively, the result of this findings further revealed that less than 50% of the respondents who agreed that breastfeeding distracts workers at work, and this factor is significantly associated with the practice of exclusive breastfeeding at P-value 0.011 respectively. It is also shown that there is no significant association between superior's attitude towards bringing child to work and practice of exclusive breastfeeding at P-value of 0.147. The result showed that close to 60% of the employed nursing mothers that attended antenatal centers practiced exclusive breastfeeding for six months and that there is significant association between antenatal care, problem breastfeeding babies in the early days, friendly environment at work and practice of exclusive breastfeeding at P-value of 0.047, <0.001, <0.001 respectively.

Table 4.3: Factors Associated with of the Practice of Exclusive Breastfeeding for Six Months

Variables	<6 months	6 months	Chi-square	P-value
Age			4.484	0.106
<30	57.1	42.9		
30-34	48.6	51.4		
>34	39.4	60.6		
Religion			2.210	0.137
Christianity	47.0	53.0		
Islam	61.3	38.7		
Ethnic			0.017	0.897
Yoruba	48.9	51.1		
Non-Yoruba	47.4	52.6		
Highest Educational Attainment			1.121	0.571
Primary	75.0	25.0		
Secondary	50.0	50.0		
Post-secondary	48.3	51.2		
Marital Status			0.171	0.680
Non-married	55.6	44.4		
Married	48.5	51.5		
Knowledge			**17.261**	**<0.001**
Poor Knowledge	41.2	58.8		
Good Knowledge	71.4	28.6		
Department			**24.417**	**<0.001**
Bursary	48.3	51.7		

Academic	49.4	50.6		
Banking	86.7	13.3		
Others	33.3	66.7		
Partner's support on exclusive breastfeeding			**23.160**	**<0.001**
Yes	43.2	56.8		
No	90.0	10.0		
Breast feeding distract workers at work			**6.520**	**0.011**
Agree	54.5	45.5		
Disagree	37.3	62.7		
Superior's Attitude towards bringing Baby to workplace			3.383	0.147
Poor Attitude	59.5	40.5		
Fair Attitude	50.4	49.6		
Good Attitude	40.5	59.5		
Antenatal care			**3.955**	**0.047**
No	56.3	43.7		
Yes	43.5	56.5		
Difficulties in breastfeeding your baby in early days?			**12.548**	**<0.001**
Yes	67.7	32.2		
No	42.2	57.8		
Friendly			**10.389**	**<0.001**

Environment		
Yes	46.4	53.6
No	92.3	7.7

Source: Researcher's Field Survey (2023)

4.2.3 Factors Influencing the Practice of Exclusive Breastfeeding for Six Months

Logistic regression analysis from table 4.3 shows the factors influencing the practice of exclusive breastfeeding for six months. The result showed that there is no significant relationship between age of the respondent and practice of exclusive breastfeeding. At AOR, Respondents aged <30 were 2.05 times less likely to practice exclusive breastfeeding compared to those aged >34 years (AOR= 0.60; 95% CI 0.26-1.41). Also, respondents age group 30-34 were 1.27 times less likely to practice exclusive breastfeeding than respondent >34 years (AOR= 0.78; 95% CI 0.36-1.70)

Surprisingly, the respondents who have poor knowledge are 4.99 times more likely to practice exclusive breastfeeding than those with good knowledge (AOR = 4.99; 95% CI 2.22-11.23). It is also shown from the result that respondents who were in bursary sector were 1.35 times less likely to practice exclusive breastfeeding than those in other department at (AOR = 0.74; 95% CI 0.30-1.86), respondents in Academics are 3.12 less likely to practice exclusive breastfeeding than those in other department at (AOR=0.32; 95% CI 0.15-0.71;). Respondents in banking sectors are 8 times more likely not to practice exclusive breastfeeding than those in other department at (0.13; 95% CI 0.03-0.46;). Respondents who do not have partner's support on exclusive breast feeding are 20.95 less likely to practice exclusive breastfeeding than those who have partner's support at (AOR=20.95; 95% CI 5.07-86.49;). Respondents who agreed that breastfeeding distract workers at work are 2.57 times less likely to practice exclusive breastfeeding than those who disagree on it at (AOR=0.39 95% CI 0.19-0.79;). Respondents who do not go for antenatal care are 1.08 more likely not to practice exclusive breastfeeding than those that go for antenatal clinic at (AOR=1.09 95% CI 0.56-2.09;). It is shown from the result that respondents who had difficulties with breastfeeding their babies in the early days are 2.90 times less likely to practice exclusive breastfeeding than those who did not have difficulties in their early days at (AOR=0.34

95% CI 0.16-0.73). The result showed that respondents who does not have friendly environment are 20.50 times less likely to practice exclusive breastfeeding than those that has friendly environment at (AOR=20.50 95% CI 2.31-182.28)

Table 4.4: Factors Influencing the Practice of Exclusive Breastfeeding for Six Months

Variables	UOR	95% C.I	P-value	AOR	95% C.I	P-value
Age						
<30	0.488	0.250,0.952	0.035	0.605	0.260, 1.412	0.245
30-34	0.688	0.369, 1.281	0.238	0.782	0.360, 1.699	0.534
>34	1					
Religion						
Christianity	1.783	0.826, 3.851	0.141			
Islam	1					
Ethnic						
Yoruba	0.940	0.368, 2.398	0.897			
Non-Yoruba	1					
Highest Educational Attainment						
Primary	0.312	0.032, 3.042	0.316			
Secondary	0.936	0.130, 6.753	0.948			
Post-secondary	1					
Marital Status						
Non-married	0.755	0.198, 2.879	0.681			
Married	1					
Knowledge						
Poor Knowledge	3.571	1.922, 6.635	<0.001	4.998	2.224, 11.233	<0.001
Good Knowledge	1					
Department						
Bursary	0.536	0.265, 1.083	0.082	0.742	0.297, 1.856	0.524
Academic	0.512	0.270, 0.968	0.040	0.320	0.145, 0.710	0.005
Banking	0.077	0.024, 0.245	<0.001	0.125	0.033, 0.466	0.002
Others	1					
Partner's support on exclusive						

breastfeeding						
Yes	11.842	4.488, 40.202	<0.001	20.946	5.073, 86.486	<0.001
No	1					
Breast feeding distract workers at work						
Agree	0.498	0.290, 0.854	0.011	0.389	0.190, 0.796	0.010
Disagree	1					
Superior's Attitude towards bringing baby to workplace						
Poor Attitude	0.465	0.208, 1.039	0.062			
Fair Attitude	0.672	0.380, 1.189	0.172			
Good Attitude	1					
Antenatal care						
No	0.598	0.360, 0.94	0.047	1.087	0.563, 2.099	0.803
Yes	1					
Difficulties in breastfeeding your baby in early days?						
Yes	0.348	0.192, 0.632	0.001	0.344	0.162, 0.730	0.005
No	1					
Friendly Environment						
No	13.855	1.773, 108258	0.012	20.502	2.306, 182.284	0.007
Yes	1					

Source: Researcher's Field Survey (2023)

4.3 Discussion of Findings

The aim of this study was to assess the knowledge, intention and practice of exclusive breastfeeding among employed nursing mothers working in private organizations in Ibadan Metropolis. The maternal socio-demographic information reported in this study showed that almost all the respondents were married, majority were more than 30 years of age, majority had tertiary educational level. These socio-demographic information are similar to the studies carried out in Ogun State and F.C.T, Abuja[1,2].

The finding from this research showed that more than half of the respondents were reported to have heard about exclusive breastfeeding through health workers. This could mean that they received correct information with regards to optimum breastfeeding practices during their ante-natal visit; this finding is consistent with the result of the research conducted in F.C.T Abuja[2]. Also, the finding of this study revealed that close to three-quarter of the respondents had good knowledge of exclusive breast feeding. This is in contrast to findings from a study in Sokoto, Northern Nigeria where less than one-third of respondents had adequate knowledge[4]. The difference in knowledge of exclusive breast feeding may not be unconnected with the educational gap that exist between south west where this study was conducted and that of Northwest of Nigeria[5].

Although, it has been reported from previous studies that maternal knowledge about breastfeeding would positively influence the prevalence of successful breastfeeding[6,8]. However, the finding of this study revealed that the practice of exclusive breastfeeding was low compared to others with high knowledge of breast feeding. This finding could be has been attributed to some barriers such as short maternal leave, lack of friendly environment at workplace, as

reported in related studies conducted in Lagos, Kaduna and Ghana[19,20,21]. Public health officials need to continue childcare and feeding education unceasingly and involve personalities who matter in maternal and child health issues in the communities in the breastfeeding and child care processes.

According to the finding of this study, more than three-quarter of the respondents had intention to breastfeed their babies exclusively for six months, but only half of the women practiced exclusive breastfeeding for six month. This finding is comparative to the study that was carried out among employed nursing mothers in China and Lagos State[10,11]. Factors such as short maternity leave, unfriendly work environment, lack of social support for the nursing mothers and lack of lactation of the nursing mother were found to be associated with actual practice of EBF in this study. This finding corroborates other studies, where the mothers that had difficulty with breastfeeding their babies in the early days stopped breastfeeding[10,11]. The cessation of breastfeeding was found to be related to breast engorgements, cracked nipples and inadequate lactation which the integration of routine lactation consultation into early postpartum visits, and adequate counseling on proper techniques of breastfeeding will help to prevent these lactation problems and improve the practice of breastfeeding[12].

Furthermore, the finding showed that support of the partner was positive factor for effective practice EBF, this agrees with findings from a study carried out in Bangladesh which reported that the partner is a very important source of emotional support that positively stimulates, gives confidence and the will to prolong breastfeeding[14].

According to this study, short maternity leave and the need to return back to work have been a major barrier to practice of exclusive breastfeeding among employed nursing mothers. Similar

findings have been reported in studies that explored the breastfeeding practices of working mothers in Indonesia and Ethiopia[14,15]. Report from a study conducted in Shanghai indicated that Shanghai women having a paid maternal leave of more than 120 days was positively associated with exclusive breastfeeding, which further supports the idea that maternity leave policies are effective at increasing exclusive breastfeeding[14]. In contrast to this, the evidence from the qualitative study conducted on the attitude and practice of exclusive breastfeeding in 38 Low and Middle Income Countries (LMICs), reported that 57% countries had 14-week maternal leave[16], the maternity protection legislation in Shanghai projects the maternal-leave period exceeds to 18 weeks recommended by the International Labor Organization, thus indicating positive and supportive societal attitudes toward breastfeeding in Shanghai[16].

The finding of this study revealed that lack of social support at work and non-conducive environment at workplace to sustain the practice of EBF are barriers to the practice of exclusive breastfeeding. This is similar to the reports from studies in developed countries like USA and UK that emphasized the lack of social support as the main reason for not practicing EBF[14,15]. Also it has been reported from previous studies like the study carried out among nursing mothers working in banks, Lagos state that highlighted the importance of workplace-based support for mothers practicing exclusive breastfeeding[18]. It was revealed that although work status had no effect on the initiation of breastfeeding it did have an effect on duration of breastfeeding, hence, working mothers were more likely to stop breastfeeding early[18,19]. Likewise, studies from Indonesia and Malaysia established that the support from co-workers is a significant motivator to continue breastfeeding after returning to work[20,22].

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Chapter Five

Conclusion

5.1 Summary of Findings

The aim of this study was to access the knowledge, intention and practice of exclusive breastfeeding among employed nursing mothers who are working in private organizations in Ibadan. The result of this study shows that majority of the respondents have heard about exclusive breastfeeding, though there is no significant association between religion, ethnic group, age, highest educational attainment, marital status of respondents and practice of exclusive breastfeeding. However, there is a high level of knowledge of exclusive breastfeeding among the participants, and more than half of the respondents accounted that they heard about exclusive breastfeeding through health workers, this shows that there is a positive outcome of health education and promotion done for women during their antenatal visit. More than two-third of the respondents that recounted their intention to practice exclusive breastfeeding for six months but only less than half of the respondents actually practiced it, also there was an increase in the number of respondents that recounted their intention of not practicing exclusive breastfeeding for six months.

This study revealed that there is a significant association between knowledge of exclusive breastfeeding, department the nursing mothers work, problem with breastfeeding babies in the early days, friendly environment at work, breastfeeding distract workers at work and practice of exclusive breastfeeding. It is further observed from this study that the need to return back to work, short paid maternal leave period, lack of social support at workplace are factors that

caused barriers to the effective practice of exclusive breastfeeding by the employed nursing mothers.

Furthermore, also there is significant association between antenatal care, partner's support on exclusive breastfeeding and practice of exclusive breastfeeding, this shows that the positive attitude of the nursing mothers to antenatal meetings and the support of their partners enhanced them to practice exclusive breastfeeding

5.2 Conclusion

In respect to the result findings, it is obvious that even though knowledge of exclusive breastfeeding was high among the working mothers and intention to practice was considerably above average, the practice of exclusive breastfeeding was not in alignment with World Health Organization recommended practice of exclusive breastfeeding, because mothers introduced water and other liquid to their infants before six months of age as most of them had to return to work place.

Hence, the result of this survey highlights the importance and the need for increased workplace-based support for exclusive breastfeeding among breastfeeding mothers who work in busy employment facilities, also there should be advocacy by government for a mandatory six month maternity leave for all working mothers including those employed in private organizations

5.3 Recommendations

Based on the result from these findings, the following recommendations were made:

i. Increase in duration of paid maternity leave. If mothers get more maternity leave, they will have more chance to be with their children all the day so that they can provide breast milk to their children as per needed.

ii. Supportive workplace environment also plays a positive role to promote exclusive breastfeeding. Mothers who continue breastfeeding after returning to work place need the support of their co-workers, supervisors, etc. within the workplace. In the workplace, programs specifically considered to support breastfeeding women are often a crucial factor in their ability to continue to provide breast-milk for their infants. Supports for breastfeeding employees creates a higher productivity, loyalty and positive public image. Breastfeeding employees miss work less actually because breastfed infants are healthier.

iii. Employers should provide flexible time for nursing mothers, breastfeeding breaks are important for them to have the ability to exclusively breastfeed during the first six months of life, also expressing facilities at the work place to be used by breastfeeding employees and these facilities have to be hygienic, comfortable and private in addition to this there should be hygienic storage options for the mother to store her breast-milk.

iv. Proper knowledge and awareness about exclusive breastfeeding and provision of facilities for exclusive breastfeeding (EBF) by the employers will play a significant role to promote EBF among working mothers, hence Policy makers should consider promotion of infant-friendly work environment among employers and the establishment of work-site breast feeding room to promote exclusive breastfeeding as recommended by UNICEF that a properly equipped room for

mothers to breastfeed their children and express milk in workplaces is an obligation for employers.

5.4 Contribution to Knowledge

This study revealed that though majority of the nursing mothers had heard about exclusive breastfeeding there is still a gap on the level of proper knowledge regarding exclusive breastfeeding, as some of the nursing mothers had the perception that breast milk alone is not sufficient for their babies, while some had difficulty in lactation. A health educational programs to improve the proper knowledge of exclusive breastfeeding among employed nursing mothers.

Assessing the intentions and practice exclusive breastfeeding by the nursing mothers, it was revealed that the level of actual practice was lower than the intention and this is due to various barriers faced by the nursing mothers such as need to return back to work, this calls for policymakers to develop strategies to promote and support exclusive breastfeeding among nursing mothers in private organizations. Also, this study revealed that despite the high knowledge of the employed nursing mothers about exclusive breastfeeding, their effective practice of EBF were hindered as a result of short paid maternity leave period, lack of supportive environment for breastfeeding at work. Identifying these barriers will inform the development of workplace facilities and interventions to address and overcome them.

Policy Makers can use the evidences from this research to design supportive workplace policies, such as provisions for sufficient paid maternity leave, lactation breaks, private nursing areas, and breastfeeding-friendly work environments, these will aid the increase in practice of exclusive breastfeeding among employed nursing mothers, hence serve as one of the critical keys to

achieving SDG 2 and 3 which are channeled toward zero hunger, improved nutrition, good health and well-being.

5.5 Suggested Areas for Further Studies

Further in-depth comparative study can be carried out on attitude of privately employed nursing mothers with provision of breastfeeding facilities at work place towards the practice exclusive breastfeeding and those without breastfeeding facilities.

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Appendix I

Informed Consent

Title of Study

Knowledge, Intention and Practice of Exclusive Breastfeeding among Employed Nursing Mothers in Private Organizations in Ibadan

Principal Investigator

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Purpose of Study

My name is Olaoye Adeola Iyanuoluwa, a master of public health student at the Faculty of Basic Medical and Applied Sciences, Lead City University, Ibadan. I am conducting a study on knowledge, intention and practice of exclusive breastfeeding among employed nursing mothers in private organizations in Ibadan

I am interested in assessing the knowledge of exclusive breastfeeding among employed nursing mothers, also the intention and actual practice of exclusive breastfeeding among this study population. I hereby solicit your support in completing this questionnaire.

Research Procedure

If you agree to be in this study, you will be asked to answer questions about yourself pertaining to the purpose of this study described above. These questions will be asked using a structured questionnaire. The questionnaire will take about 5 to 10 minutes of your time to complete.

Risks and Benefits

There are no known risks if you take part in this study. There are also no incentives but the information you provide would hopefully serve as an important input to intervene in programs that aim at informing favourable policies in private organizations that will improve the practice of exclusive breastfeeding among employed nursing mothers in private organizations

Compensation

Participant was not compensated for participation in this study. Participation was voluntary.

Confidentiality

All information you provided was confidential and used for research purpose only. Your name will not be required and will never be used in connection with any information you give. Your response is completely anonymous; no personal identifying information was collected. Every effort was made by the researcher to preserve your confidentiality. Only the research team has access to the answered questionnaires. Confidentiality and privacy was maintained.

Contact Information

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact the researcher whose contact information is

provided on the first page. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact the Supervisor at olowolafe.tubosun@lcu.edu.ng

Voluntary Participation

Your decision to participate in this study is completely voluntary. It is up to you to decide whether or not to take part in this study, if you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason.

Appendix II

Questionnaire

Department of Public Health, Faculty of Basic Medical and Applied Science, Lead City University, Ibadan, Oyo State

Dear Respondent,

The researcher is a student of the above named institution. This questionnaire is designed mainly to obtain information on the research topic "**knowledge, intention and practice of exclusive breastfeeding among employed nursing mothers in private organizations in Ibadan**"

Please, be assured of your anonymity as any information you gave will be handled confidentially, therefore your fullest assistance to the success of this study will be appreciated

Instruction:

Fill in the Gap and Tick the Box ☑ for your appropriate answers in Section A, B and C Below

Section A: Socio-Demographics

1. Age: _____

2. Religion: (a) Christianity ( ) (b) Islam ( ) (c) Traditional ( ) (d) Others, please specify _____

3. Ethnic Group: (a) Hausa ( ) (b) Igbo ( ) (c) Yoruba ( ) (d) Others, please specify _____

4. Highest Educational Attainment: Informal ( ) Primary School ( ) Secondary School ( ) post-secondary ( )

5. Marital Status: (a) Single ( ) (b) Married ( ) (e) Divorced ( ) (d) Separated ( ) (e) Widowed ( )

6. If married, highest educational attainment of partner? Informal ( ) Primary School ( ) Secondary School ( ) Post-secondary ( )

8. Occupation:

9. What department are you working with? (a) Bursary [ ] (b) Administrative [ ] (c) Library [ ] (d) Academic ( ) (e) Others

10. How many hours do you spend at your place of work?_____

Section B: Assessment of Knowledge of Exclusive Breastfeeding of the Nursing Mothers

11. When did you give birth? _____

12. How old is your baby? _____

13. Have you ever heard about exclusive breastfeeding? Yes [ ] No [ ]

14. If yes, from where? Television [ ] Books [ ] Radio [ ] Health worker [ ] Relative [ ] Friend [ ] Others …….

15. Do you know what exclusive breastfeeding is? Yes ( ) No ( )

16. If yes what is it? Giving the baby breast milk and water only from birth ( )
Giving the baby breast milk only from birth ( ) Giving the baby breast milk and other baby foods from birth ( ) Giving the baby foods, breast milk and water from birth ( )

17. The best food for a newborn is beast milk only (a) True (b) False (c) I don't know

18. Babies who are breastfed exclusively tend to get fewer infections than babies who are fed with formula (a) True (b) False (c) I don't know

19. Breastfeeding helps mother and child to have a special bonding (a) True (b) False (c) I don't know

20. The formula protects the baby from having infection (a) True (b) False (c) I don't know

21. New born babies need breast milk for 3months then introduction of formula afterwards (a) True (b) False (c) I don't know

22. The baby fed exclusively with human milk does not need to take water or other foods during the first six months (a) True (b) False (c) I don't know

23. A nursing mother should not try to breastfeed if she gave birth through caesarean section (a) True (b) False (c) I don't know

24. A nursing mother shouldn't attempt exclusive breastfeeding if she is planning to return to work (a) Yes (b) No

Section C: Intention and Practice of Exclusive Breastfeeding by the Nursing Mothers

25. Before your last baby was born, you planned to feed him/her in the first six months with Breast milk only (a) Yes (b) No

26. How old was your baby the first time you gave him/her breast milk? _____

27. What kind of food did your baby have for his/her first feed? Breast milk. ( ) Formula ( ) Others (specify)……

28. How old was your baby when you first introduced anything other than breast milk.....

29. What was the main reason that led you to choose the way you fed your baby?

30. If your baby had any fluid (water and formula) other than breast milk in the early days of breastfeeding, why? a. I was advised to give anything else b. I wanted to give my baby something else c. I only gave my baby breast milk in the early days.

31. Were there any problems breastfeeding your baby in the early days. (a) Yes (b) No

32. If yes, what was the problem? (a) the baby refused to suck (b) mother's illness (c) the breast milk is not sufficient for the baby

33. Did you practice exclusive breastfeeding on your baby? Yes ( ) No ( )

34. If yes, how many months did you do it? _____

35. If no, Why? Due to lack of money ( ) Lack of support from my husband ( ) short maternal leave period ( ) Need to return back to work ( ) Lack of a friendly environment at my work place ( ) I think only Breast milk is not enough for my baby ( ) my baby refuse to suck( ) I was not aware of it ( ) My people don't practice it ( ) I don't believe in it ( ) Other reasons please specify……

36. Does your partner agree to it, that you should give your baby with breast milk only for the first six month of birth (a) Yes (b) No

37. How many times in a day do you breastfeed your baby_____

38. Breast milk only is not sufficient for baby between 0-6months age (a) True (b) False (c) I don't know

39. Would you like to practice exclusive breastfeeding on your subsequent babies?

Yes ( ) No ( )

40. How do you handle your child while at work? (a) Take him/her along [ ] (b) Leave him/her with someone [ ] (c) I shuffle between A and B [ ]

41. How many times do you breastfeed your baby when you at work (a) twice (b) as many times the baby needs breastmilk (c) once

42. How much do you agree with the assertion that breastfeeding at workplace distract nursing mothers? (a) Agree [ ] (b) Strongly Agree [ ] (c) Disagree [ ] (d) Strongly Disagree [ ]

43. Using the scale of 1-10, how would you rate your superiors' attitude towards you when you bring your child to work? _____

Appendix III

Ethical Approval

TELEGRAMS..... TELEPHONE.....

OYO STATE: THE PACESETTER

MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....

All communications should be addressed to the Honorable Commissioner quoting

Our Ref. No. AD 13/479/ 44576 A

2nd September, 2022

The Principal Investigator,
Department of Public Health,
Faculty of Public Health,
Lead City University,
Ibadan, Nigeria.

Attention: Olaoye Adeola

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

This is to acknowledge that your Research Proposal titled: "Knowledge, Intention and Practice of Exclusive Breastfeeding among Employed Nursing Mothers in Private Organizations in Ibadan, Oyo State." has been reviewed by the Oyo State Ethics Review Committee.

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

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

You all the best.

Signature & Date
Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee

Bio-data

A. Personal Data

Name:	Adeola Iyanuoluwa OLAOYE
Home Address:	Leo Community, Alago, Apata, Ibadan, Oyo State
Email Address:	adeolaiyanuoluwa24@gmail.com
Phone Number:	08107133927
Date of Birth:	May 23rd, 1994
Place of Birth:	Oyo State
Nationality:	Nigerian
Marital Status:	Single
Next of Kin:	Olaoye God'sGlory Ayodeji
Address of Next of Kin:	Leo Community, Alago, Apata, Ibadan, Oyo State

B. Educational Background with Dates

Educational Institutions Attended with Dates and Qualifications:

Primary School Leaving Certificate

Pethil Private School, Apata, Ibadan. 2004-2009

West African Senior School Certificate

Oladipo Alayande School of Science, Oke-Bola, Ibadan 2007-2010

Junior Secondary School Certificate

Queen's School, Apata, Ibadan

Bachelor of Science; (Chemistry)

Obafemi Awolowo University, Ile-Ife, Osun State 2012-2017

Master of Public Health 2021-2023

Lead City University, Ibadan.

C. Work Experience with Dates

Lead City University **November 2019 – Present**

Administrative Officer I

- Keeping of the academic students records
- Computing and processing students' academic results
- Working hand in hand with the academic staff to aid close monitoring of academic records and good performance of students
- Attending to students' complain via mails

.

Delta State Secondary School, Warri, Delta State. **November 2018- July 2019**

Science Subject Teacher

- Ensured the orderliness and coordination of the students during class
- Imparted into the students the rudiments of Basic science
- . Ensured that the students were well behaved and took proper attention to their studies

Elpaal Internation School, Apata, Ibadan **August 2018**

A Summer School Coach

- Helped in creation of supportive learning environment for the students
- Helped the students in their self-discovery journey

The Erudite Academy, Apata, Ibadan **January 2018-July 2018**

Science Subjects Teacher

- Ensured the orderliness and coordination of the students during class
- Imparted into the students the rudiments of science subjects
- •. Ensured that the students were well behaved and took proper attention to their studies

D. Publications

Nil

Dissertations

- Complexes of Isoni-acid and Metphomin (B.Sc. thesis), an unpublished B.Sc. dissertation submitted to the Department of Chemistry, Obafemi Awolowo University, Ile-Ife, 2017.

E. Membership

Nill

F. Major Conferences attended with Dates

Nill

G. Awards and Fellowships

Nill

Extra-Curricular Activities: Reading, Teaching and Writing.

H. Name and Address of Referee:

- Prof. O.B. Aribisala

  Computer Science Department,

  Lagos State University,

Lagos State.

- Prof. Grace Ogunlusi

  Chemistry Department,

  Obafemi Awolowo University,

  Ile-Ife,

  Osun State.

_____ _____

Signature Date

The University Compliance Certification

This is to certify that this thesis by Adeola Iyanuoluwa OLAOYE with Matric No. LCU/PG/002243 in the Department of Public Health, Faculty of Basic Medical and Applied Sciences, Lead City University, Ibadan is in full compliance with the approved university format.

_____ _____ _____ _____

Signature **Date**