FACTORS ASSOCIATED WITH EXCLUSIVE BREAST FEEDING AMONG MOTHERS ATTENDING CHILD WELFARE CLINIC AT MOI TEACHING AND REFERRAL HOSPITAL, UASIN GISHU COUNTY, KENYA.

BY

EDITH CHEPKIRUI TESOT

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE MASTER OF SCIENCE IN NURSING (MATERNAL AND NEONATAL HEALTH) DEPARTMENT OF MIDWIFERY AND GENDER, SCHOOL OF NURSING, COLLEGE OF HEALTH SCIENCES, MOI UNIVERSITY

DECLARATION

This thesis is my original work and it has not been submitted / presented for a degree in any institution of higher learning.

EDITH CHEPKIRUI TESOT

SN/PGMNH/04/17

Signature : …….. Date: ……

Supervisor's Declaration

This Thesis has been submitted for consideration with my approval as the supervisor;

Dr. DINAH CHELAGAT, PhD

Department of Midwifery and Gender

School of Nursing

Moi University

Signature: …….. Date: ……

Dr. PRISCAH MOSOL, PhD

Department of Nursing Education, Leadership Management and Research

School of Nursing

Moi University

Signature: …….. Date: ……

DEDICATION

I dedicate this work to all breastfeeding mothers for their immense devotion in ensuring they give the best to their babies and to my parents and siblings for their support and faith in me.

ABSTRACT

Introduction: Exclusive breastfeeding is the optimal way of feeding the infant; its health benefits on child and maternal wellbeing are documented. Promoting, protecting and supporting breastfeeding is paramount in meeting sustainable development goals by 2030; however, exclusive breastfeeding uptake in Kenya is sub-optimal. In spite of high rates of breastfeeding among mothers at Moi Teaching and Referral Hospital, the practices of EBF still remain low with 53.4 % mothers exclusively breastfeed their babies which is below the national level.

Objective: To determine the knowledge, practice and barriers of exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital (MTRH).

Methods: Descriptive cross sectional study design was used in this study. A total of 370 mothers with babies less than 6 months were systematically sampled and data collected using interviewer administered questionnaires. Data was presented using frequency tables, bar graphs and pie charts. The level of knowledge, and socio-demographic characteristics were measured against exclusive breastfeeding and associations between variables determined using Chi-square test. Univariate analysis was used to analyze the association between various factors that influence practice. Barriers of exclusive breast feeding were identified and multiple logistic regressions was used to determine the association.

Results: The mean age of participants was 29.74 years. Among the participants 337 (92.6%) were knowledgeable on the concept of Exclusive Breast Feeding (EBF). Participants who practiced EBF were 356 (97%). Information on EBF was sought from the health care providers by 305(83.1%) of the mothers. There was an association between infant age and knowledge on appropriate time for complimentary feeds, $\chi 2 = 128.718$, df. 96($p<0.015$) and between age and number of times per day the baby is breastfed $\chi 2 = 98.625$, df.72, $p<0.020$. There was an association between maternal age and practice of EBF, $\chi 2 = 370.144$, df. 208, ($p<0.031$). Lack of breast milk 56(45%) was the reason mothers gave other feeds to the baby and a relationship between age and reasons for giving other food was significant ($\chi 2 = 119.116$, df. 72, p (0.00). Majority 293(80%) of the mothers experienced breastfeeding disorders, univariate statistics depicts a strong relationship between having a breast disorder and practice of exclusive breast feeding ($F=16.049$, df. 3, p (0.000).

Conclusion: Majority of the mothers attending child welfare clinic were knowledgeable about the meaning and importance of EBF. Healthcare workers were the highest providers of information to mothers on practice of EBF. Younger mothers between the ages of 20-38 years were likely to adhere to the practice of EBF. Breast milk insufficiency was the main reason why mothers gave other feeds to the baby, while breast disorders were a major hindrance to the practice of EBF.

Recommendations: This study recommends the healthcare providers and media channels to optimize the knowledge on exclusive breast feeding and create awareness timing of complimentary feeds according to the Baby friendly child birth initiative. Health information and support for extreme ages should be enhanced. There is also need to enhance partner, family, employer and community support on promotion and protection of EBF according to Maternal, Infant and Young Child Nutrition Policy and to enhance proper nutrition to the mother and proper breastfeeding techniques in the practice of EBF.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

BF	Breastfeeding
BFHI	Baby friendly hospital initiative
EBF	Exclusive breast feeding
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
IREC	Institutional research ethical committee
KDHS	Kenya Demographic Health Survey
MCH	Maternal child health
MOH	Ministry of Health
MTRH	Moi Teaching and Referral Hospital
NDHS	Nigeria Demographic Health Survey
SPSS	Statistics Package for Social Sciences
TBA	Traditional Birth Attendants
UNICEF	United Nations Children Funds
WHA	World Health Assembly
WHO	World Health Organization

DEFINITION OF TERMS

Factor: Refers to a circumstance, fact or influence that contributes to exclusive breastfeeding. In this study it refers to knowledge, practice and barriers of exclusive breast feeding.

Barriers: Refers to a factor that obstructs or has negative influence on exclusive breastfeeding

Exclusive breastfeeding: Refers to feeding the baby entirely on breast milk for the first six months of age. No food or liquid is introduced other than breast milk.

Knowledge: Refers to the awareness and understanding of facts, truth or information gained in the form of experience or learning.

Practice: Refers to activities of mothers that promote and support feeding of the baby entirely on breast milk

ACKNOWLEDGEMENT

First and foremost, I would like to express my sincere thanks to the Almighty God for the gift of life, wisdom and understanding He has given me and a reason for my existence. I wish to thank my supervisors; Dr. Dinah Chelagat and Dr. Priscah Mosol for their invaluable support. I believe this good work is a result of their good guidance and cooperation. I would like to convey my gratitude to the lecturers in the Department of Midwifery and Gender for the good job done during my study. May the good Lord bless them and keep them safe.

I cannot forget my friends in the department of health records and informatics for the academic interactions and company they have accorded me and they shall always be remembered as having been good friends.

Special thanks go to the Chief Executive Officer, Moi Teaching and Referral Hospital Dr. Wilson K. Aruasa whom I regard as a mentor and a role model.

God bless you All.

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Introduction

This chapter presents; the background of the study, statement of problem, objectives, justification, significance, limitations, theoretical and conceptual framework

1.1 Background of the Study

Exclusive Breast feeding has been defined by World Health Organization (WHO) as when the child has received breast milk either from the mothers' breast directly or when it is expressed. It further states liquids like water or solids should not be given before the infant reach the age of six months, with exception of oral rehydration, vitamins, mineral supplements or prescribed medications (WHO, 2018). This practice is acknowledged universally as being useful to both the mother and the baby. Breast milk is known to be a good source of nutrients and protective antibodies for the baby. Milk being produced during the colostrum stage, during the late gestation to a few days after delivery, is creamy, yellow colored and thicker than that produced in the other stages (UNICEF, 2017).

Breast milk is safe nutritive diet that is readily available at any time, of right temperature, does not require any preparation and is always available even when then environment h is of poor sanitation (UNICEF 2016). It has the complete foods that an infant need and its benefits provide short and long effects both to the mother, the baby and the community (WHO, 2018).

Breastfeeding practice decreases child death and contribute to the long-term health of children (WHO, 2016). It is estimated that 823,000 deaths of children who are under

the age of 5 years could be prevented every year through breastfeeding practices with 87% of those children being under 6 months of age (Victora et al, 2016). The practice of breastfeeding also reduces hospitalization among children from diseases like diarrhea, respiratory infections, and otitis media illnesses (Victora *et al*, 2016). Benefits of breast feeding to the mother include; prevention of breast cancer, improving birth spacing, and likelihood of reducing risk of diabetes and ovarian cancer (Victora, et al, 2016). At the community level EBF contributes to reduction of expenses spend in consumption of formula feeds and cost spend in treating communicable diseases that occur. It also increases opportunities for sustainable future in the community (UNICEF, 2016).

The benefits of breastfeeding, together with early initiation of breastfeeding in the first hours of delivery, practicing exclusive breastfeeding (EBF) for the next 6 months of life together with continued breastfeeding and successful introduction of complementary foods for up to 2 years or beyond are recommended as the best infant feeding plan for optimal growth, development and health (WHO, 2016) is important for infants survival (Watkins, 2016).

Global analysis shows that 95% of babies are reported to have been breastfed at some point in their lives. However, the rate varies between low, middle-income, and high-income countries. In low- and middle-income countries, 1 in 25 babies, are never breastfed while in high-income countries, more than 1 in 5, never receive breast milk (UNICEF, 2018).

Early initiation of breastfeeding is important for both the mother and the child. Early suckling stimulates the release of prolactin, which helps in the production of milk, and oxytocin, which is responsible for the ejection of milk. It helps to safeguard a new born

from dying during their most vulnerable state of life and also helps stimulates contraction of the uterus after childbirth hence prevent postpartum hemorrhage. (UNICEF 2016), (KDHS, 2014).

In 2015, 45% of the newborn were put to breast within the first one hour. The early initiation of breast feeding also differs with higher reports among the high-income nations and low rate among the low- and middle-income countries (UNICEF 2016). Awareness on timely initiation within the first 1 hour of birth was reported at 88.6% of mothers in Ethiopia who knew that colostrum is good for the baby and should be not be discarded (Hagos & Tadesse, 2020). Inversely, findings from a study identified delay of initiation of breastfeeding reported among the respondents of North West Nigeria due to social cultural beliefs that include postnatal traditional and religious rites. Further the findings among the rural mothers revealed that the first feed which is mainly constituent of colostrum was influenced by a number of activities surrounding delivery this include; place of birth, practices of birth attendants, family response, religious beliefs and health seeking behaviors. Mothers are reported to have limited powers to make decisions as the husbands and the grandmothers are the major decision makers (Joseph & Earland, 2020).

Exclusive Breastfeeding (EBF) is important for infants' survival (Watkins, 2016). According to (WHO, 2018) the first milk after delivery which is usually called colostrum is a constituent of high protein diet, vitamins and minerals and all-important antibodies compared to the milk that comes later. These antibodies help in protecting the baby from many disease-causing bacteria in the environment; helps the baby to pass the meconium and helps in prevention of jaundice. Exclusive Breastfeeding (EBF) help in meeting all the necessary nutrient and fluid needs of the infant until six months of age.

A breastfeeding survey in United Kingdom (Schmied *et al.,* 2012), indicates that breastfeeding continues to be the norm both in low and high-income countries; however, the period of EBF after birth is often short. The ways babies are fed have significant consequences for short-, medium- and long-term health of the babies and their mothers. Breastfeeding forms part of the reproductive process playing an important implication on the health of the mother.

During the breastfeeding process there is skin to skin contact which is encouraged and helps keeps the baby warm enabling the new born to build his or her immune system, promotes bonding between the mother and the baby and boosts a mother's milk supply which in turn increases chances of EBF (Idris *et al*, 2015) (UNICEF, 2016).

WHO (2018), further postulates that in promoting and sustaining EBF, initiation of breastfeeding should be commenced in the first hour of life unless there are other un avoidable circumstances that may hinder the initiation of breastfeeding, the practice of breastfeeding should be on demand, no use of pacifiers and should be continued from then for up to six months of life. After the infant has completed the six months of life, they may be fed on quality complementary foods while continuing breastfeeding for two years or longer.

Mothers need to be encouraged from the beginning of the antenatal clinic to plan on maintaining breastfeeding to their children. Maternal confidence in breastfeeding is also evidenced as a variable that influences the initiation and maintenance of breastfeeding. Women who have the perception to be competent mothers tend to breastfeed for longer than those who do not have this perception, which also encompasses how comfortable they feel in this nursing function. Maternal confidence in breastfeeding is the ability to theoretically conceptualized Breastfeeding Self-efficacy (BSE), and it relates to the

woman's perception of her ability to breastfeed her child; this means that mothers need to believe that they have the knowledge and skills to successfully breastfeed their children for this practice to be successful (Otsuka *et al,* 2014).

Self-efficacy also enables mothers to seek solutions that encourages them to continue practicing EBF even in the midst of challenges. A study among the Chinese mothers living as immigrants in Ireland identify the determination the mothers had and always found a solution to their challenges that was barriers to EBF. Measures taken to overcome these barriers included seeking family support, resting during the lactation period, and pumping breast milk to feed from a bottle when outside the home.

Mothers of Kwazulu in South Africa had strategies of increasing breast milk production which included taking of nutritious fluids like tea and porridge (Jama *et al* 2017). Similarly (Tuthil *et al,*2020) study identify that because of self -efficacy among the HIV positive breast feeding mothers and the desire not infect their babies through mixed feeding the success rate of EBF was high than those who were not HIV positive.

WHO and UNICEF established the ten successful steps to breastfeeding in baby friendly hospital initiative policy to strengthen the maternity practices to support breastfeeding. The initiative contributed in settings standards of EBF in the hospital set up and ensure the continuity of practice of EBF at the community level hence improving the establishment of exclusive breastfeeding worldwide (WHO 2018, UNICEF 2018). While maternity services promote the initiation of exclusive breastfeeding, support throughout the entire health sector is required to help mothers to sustain the practice (Horta &Victora, 2013). In countries such as Sri Lanka the promotion of baby-friendly hospitals, which comply with the Ten Steps to Successful Breastfeeding has been instrumental in increasing rates of breastfeeding and also because most mothers deliver

in health facilities and therefore have first-hand information on exclusive breast feeding from the skilled birth attendants (UNICEF,2018).

Hospital practices were also cited as factors leading to the decline in breastfeeding. Such practices include mother and baby separation, rigid (timed) feeding regimes, administering pre-lacteal feeds such as glucose water (Jama *et al,* 2017). In Mexico, hospital practices such as increase number of cesarean sections and the use of infant formula to supplement breast milk, as well as lack of support in initiation and continuation of exclusive breastfeeding by health personnel was identified as contributing to delays in initiation and sustainability of EBF(Hernández-Cordero *et al*, 2020).

Alternatives to breast milk are also introduced to new mothers through a variety of channels, including mail and home visits (Inoue *et al*, 2012). According to a study conducted in the United States, 55% of mothers received free recipe samples from manufacturers through the post office (Appleton *et al*, 2018). The impact of these outlets on breastfeeding conduct and BMS use has not been estimated, but it is likely going to increase as Internet access, web-based business, and mining of online purchaser information develops, and because it is to a great extent unregulated (Abekah-Nkrumah *et al.,* 2018).

Globally, the importance of breastfeeding are still not recognized, in scaling up the rate to near universal level the lives of 82,300 children under the age of 5 years would be saved annually in 75 low income and middle income countries (Watkins, 2016). Statistics indicate that approximately 3, 000 to 4,000 infants die every day because the ability to breastfeed appropriately has been taken from their mothers, while thousands more die because of infection and malnutrition. Despite the WHO and UNICEF set

standards on exclusive breastfeeding, globally the practice of EBF is still below, as only 40% or 2 in 5 infants worldwide are exclusively breastfed (Watkins, 2016).

Exclusive breastfeeding contributes to increase in intelligence which generally translates to improve academics and reductions in the prevalence of overweight and diabetes. (Victora *et al.,* 2016) demonstrates that the length of time spent exclusively breastfeeding contributes to an increase in intelligence and educational attainment, both of which have an impact on adult life.

Failure to practice EBF has been shown to significantly predispose to a large number of acute and chronic infections leading to significant deaths of infants worldwide (WHO, 2017). Exclusive breastfeeding is also associated with better growth of infants under 6 months and should be further promoted as a factor in reducing stunting (Kunchenbecker, *et al.,* 2014).

The practice of EBF differs with different socio-economic status. A study conducted on mothers in the US indicated that mothers with a higher family income level were more likely to exclusively breastfeed their infants than their lower income counterparts (US department of Health and Human Services, 2012), while in another study mothers with high economic status were less likely to practice EBF than mothers of middle and low economic status (Victora *et al.,* 2016). Similar to studies from Saudi Arabia, Peru, and the Philippines (UNICEF, 2010) all found that higher family income was associated with a reduced probability of initiation and duration of breastfeeding.

A study by (Weber *et al*, 2011) examined women's report of perceived organizational support on breastfeeding intention and practice among those who had taken maternity leave and those who had resumed work in Australian women employees and the results identified employment as a barrier to exclusive breastfeeding practice and returning to

work was one of the reasons why women ceased breastfeeding. The results further indicated 60 % of women had intention to breastfeed when they returned to work, but only 40% did so. In the same study flexible work options and lactation breaks, as well as access to a private room, were identified as the main factors that facilitate breastfeeding at work (Weber *et al.,* 2011).

In Africa, 99% of mothers breastfeed their infants, although mixed feeding is widely practiced with foods and fluids such as water, cereals, infant formula, teas, animal milk and herbal preparations from the first week after birth. Despite the adequate documented knowledge on importance of EBF, the practice is not widespread in developing countries. The region with the lowest reported exclusive breastfeeding rate is Western and Central Africa at 20% (UNICEF, 2013).

Despite the low rates of exclusive breastfeeding in sub-Saharan Africa, the available data indicate that these rates improved between 1990 and 2004 –going from 15% to 32% (UNICEF, 2013), since then there has been limited progress in EBF in most regions with Eastern and Southern Africa recording 54%, Middle East and Northern Africa recording 33% in 2015 (UNICEF, 2018).

A study by (Joshi et al, 2014) in Bangladesh established that 36% of the mother were exclusively breast feeding while (Muriithi *et al.,* 2017), reported that in Nigeria, the prevalence of EBF varied from 67% in Jos, 52.9% Lagos to as low as 37.3% in Anambra, South East, while the nation's average was 17%. In Ghana, the breastfeeding practice is common with almost all the children reported that they are being breastfed. However, the Ghana Demographic Health Survey in 2014 reported an exclusive breastfeeding rate of 52% at 6 months (Ghana Statistical Service *et al.*, 2015), which is below the optimal EBF rate of 90% in infants less than 6 months as set by the

WHO/UNICEF for developing countries (WHO, 2016). EBF in South African mothers is still well below global targets, with an estimated 31.6% of infants being exclusively breastfed for the first six months (South Africa Statistics, 2016).

The 2013 Nigeria Demographic and Health Survey (NDHS) reported an exclusive breastfeeding rate of 17% for the first 6 months of life. In a study, time of initiation of breast feeding was low as 40.6% of mothers reported to had commenced breastfeeding their infants immediately after birth and the prolong period taken to initiate breast feeding was found to be a contributing factor to a decrease in the exclusive breastfeeding rates (Olasinde *et al.*, 2021). In South Africa, health care systems, maternal - baby factors and social factors like family pressure, returning to work or school were the main reasons mothers did not practice EBF (Jama *et al.*, 2017).

Low practice of EBF in Ethiopia is attributed to various maternal and child factors, such as giving birth in a health facility, being a housewife, in occupation. Receiving counseling or advice on infant and colostrum's feeding, were contributing factors to practice EBF (Arage & Gedamu, 2016). In a different study among the mothers of Enderta of Ethiopia the age of the mother was a determining factor for EBF; mothers of 40 years or above were less likely to EBF their infants compared to mothers aged 15 to 19 years, contrast to a study in Tanzania where mothers between the ages 35-49 years were more likely to practice EBF than those between the age 15 to 24 years (Maongo, *et al.*, 2016).

Accessed to postnatal care services were also encouraging factor in practice of EBF in a study this is because during such visits the health providers will have the opportunity to address the challenges experienced by the mothers at home. (Teka, *et al.*, 2015). Receiving counseling during postnatal care services concerning infant feeding

increased the likelihood of mothers feeding breast milk only when compared to those who received no counseling during postnatal care (Mekuria & Edris 2015)

Mothers who received breastfeeding counseling during pregnancy and being supported by the husband depicted to be motivational factors to practice EBF (Tewabe, 2017).

Better maternal education, marital status, good wealth index, and lower age of the child were encouraging factors of practicing exclusive breastfeeding (Setegn,*et al* 2012).Similar, a study in Malawi identified fours factors to be associated with of exclusive breastfeeding and included age of the mother, ethnicity of the mother, sex of the infant and the number of children a mother had. While on the other hand education, religion, region of origin, employment status, wealth index and marital status of the mothers were not associated with exclusive breastfeeding of babies (Salim & Stones, 2020).

In developing countries including those in sub-Saharan Africa, EBF practice is lower than the international recommendation (Teka, *et al*, 2015). In Tanzania, for example breastfeeding is reported to be practiced universally as about 97% of infants are breastfed and the median duration is 21 months. (Mgongo *et al.*, 2019), but the rate of exclusive breastfeeding is as low as 50% (Maonga *et al.*, 2015).

The rate of exclusive breastfeeding in Kenya is reported at 61% which is below the international WHO threshold rate of 90% (Kenya Demographic and Health survey 2014-2015). Early initiation of breastfeeding is also very low, with 58% of newborns being initiated on breastfeeding within one hour of birth. Many women in Kenya, especially those in rural areas and those in urban poor populations, do not exclusively breastfeed their children due to psycho social factors which include maternal perceptions on milk production, physical appearance and involvement in other

activities that result in early cessation, (Mututho, *et al.,* 2016). According to Kenya Demographic and health survey (KDHS) of 2014, exclusive breastfeeding is recommended because breast milk provides immunity to diseases. Early supplementation is discouraged because it is a predisposing factor to rise in pathogens to the infants and increases their risk of infection, especially diarrhea and acute respiratory infections (WHO, 2016). The Kenya Ministry of Health supports (MOH) EBF for 6 months through the health workers who are mandated to counselling on practices of EBF (KDHS, 2014).

Breastfeeding practices seem to be worse in urban areas compared with rural areas according to studies done in Kenya. For example, the mean and the median age of the infant duration of EBF are 6 months in urban areas compared with 10 months in rural areas (Kimani-Murage *et al.,* 2014).The factors contributing to the reduced rate of EBF practice in developing countries such as those in Africa has been shown to include: lack of knowledge about benefits of breastfeeding, lack of maternal decision-making power, work schedules, recommencing work after maternity leave, lack of support, traditional beliefs and practices (Nukpezah *et al.,* 2021).

In Kenya some of the factors limiting optimal breastfeeding among urban poor Kenyans are; poverty, livelihood and living arrangements, single and early motherhood, poor knowledge, myths and misconceptions among others. These conditions made women to resume work immediately after delivery exposing them to long working hours and leaving them unable to breastfeed optimally (Kimani-Murage *et al.,* 2014).

This study therefore seeks to investigate the factors that are associated with exclusive breastfeeding so that appropriate interventions can be put in place.

1.2 Problem Statement

In 2015, the United Nations reported that breastfeeding is linked to the eight sustainable development goals i.e. poverty, hunger, health, education, gender equality and sustainable consumption, making it a necessity to promote and protect it (Thepha, 2017).

WHO/UNICEF recommends that all babies aged 0-6 months be exclusively breastfed. Adopting the simple and accessible practices of EBF is estimated to have approximately saved 1 million lives out of the 6.9 million under five children who were reported dead globally in 2011 (WHO, 2012). In Kenya, a lot of resources have been invested in implementing these guidelines; however, the compliance on EBF remains relatively low at an estimated uptake level of 61% nationally (KDHS, 2014).

In MTRH, 53.4% of mothers attending MCH services with children less than six months exclusively breastfed their babies which is below the national level of 61 % (MTRH, MCH records unpublished, 2018). Evidence has it that in spite of high rates of breastfeeding practices among mothers attending MCH at MTRH, the practices of exclusive breastfeeding still remain low especially among first-time mothers. In MTRH, despite the educating mothers on importance exclusive breastfeeding and the known factors, EBF still remain suboptimal.

1.3 Research Question

1). What is the knowledge on exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital?

2). What are the practices on exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital?

3).What are the barriers of exclusive breastfeeding practice among women attending child welfare clinic at Moi Teaching and Referral Hospital?

1.4 Broad Objective

To determine the factors associated with exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital

1.4.1 Specific Objectives

1) To determine the knowledge on exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital.
2) To identify the practices on exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital.
3) To determine the barriers of exclusive breastfeeding practice among mothers attending child welfare clinic at Moi Teaching and Referral Hospital.

1.5 Justification of the Study

The World Health Assembly (WHA) is targeting to increase exclusive breastfeeding in the first six months to 50% by the year 2025(WHO, 2018). Kenya has made a step in meeting the recommendation of exclusive breastfeeding by being among the handful countries to achieve the World Health Assembly target but challenges are being experienced. Major interventions to promote exclusive breastfeeding should focus on the needs of each population by identifying the factors associated with exclusive breastfeeding. Studies in different contexts in Kenya have identified various potential factors of exclusive breastfeeding. Some of these factors include socio economic, demographic, maternal, socio cultural and contextual factors among others. The aim of this study is to highlight the factors that are associated with exclusive breastfeeding at

MTRH. Understanding these factors and how they influence exclusive breastfeeding is important in improving exclusive breastfeeding practices. This could be achieved through initiation of new programs and up scaling of already existing programs.

The study will help to generate information on knowledge of mothers on exclusive breastfeeding, factors that facilitates the practice of exclusive breastfeeding and barriers of exclusive breastfeeding.

1.6 Significance of the study

The information generated from this study will be used by the MTRH management and other stakeholders in advocating for exclusive breastfeeding.

The findings of the study will be useful to the Ministry of Health (MOH) and other agencies working on child health and survival programs. The results will also facilitate re-orientation of the strategies on the promotion of EBF by focusing on sources and content of information given to the mothers on exclusive breastfeeding and therefore this may contribute in raising the rate of exclusive breastfeeding in the area and other similar areas.

1.7 Limitations of the Study

The use of an interviewer- administered questionnaire in this study posed a risk of social desirability bias. In order to reduce the bias, the respondents were explained the reason for conducting research and were assured of anonymity and confidentiality.

1.8 Theoretical and Conceptual Framework

1.8.1 Theoretical Framework

Generally, several theoretical models and frameworks have been used to study the issues of breastfeeding (Nkrumah *et al.*, 2020). This study adopted the "Health Belief Model" which is a psychological model that attempts to explain and predict health behaviors. The main principle of the model is the way in which an individual perceives the world and how these perceptions motivate their behavior. It was first developed in the 1950s by social psychologists Houchbaum, Rosenstock and Kegels working in the U.S Public Health services (Janz & Becker, 1984). The HBM was initially spelled out in terms of four constructs representing the perceived threat and net benefits. These four constructs include Perceived Susceptibility, Perceived Severity, Perceived Benefits and Perceived Barriers.

Perceived susceptibility reflects a person's belief about the likelihood of getting a disease/ condition. The greater a person's perceived risk, the greater the likelihood of the person engaging in behaviors to lessen the risk. *Perceived severity* also reflects a person's belief about the seriousness or consequences of a disease/condition. In this study perceived susceptibility and perceived severity which poses as threats to perception refers to the maternal knowledge regarding the information about exclusive breastfeeding.

Perceived benefits, reflects a person's belief that a certain action will reduce risk or the seriousness of an impact is termed. For this study it refers to the practices of exclusive breastfeeding and it can be influenced by several factors like psychosocial support, family support, socio-cultural factors and antenatal preparation.

Perceived barriers, reflects on a person's belief that in making a change in health behavior, the process to it is going to be hard or difficult. In this study it refers to barriers of exclusive breastfeeding which include maternal factors, infant factors, breast complication, peer influence and rooming- in.

A recent addition to the HBM is the concept of *Cue to Action* and Self-efficacy. This concept was added by Rosenstock and others in 1988 to help the health belief model better fit the challenges of changing habitual unhealthy behaviors, such as being sedentary, smoking, or overeating (Glanz & Bishop, 2010).

Cue to Action involves the external events that prompt a desire to make a health change and helps in decision making process in accepting a health recommendation. For this study it refers to government policies in place regarding exclusive breastfeeding as well as the hospital policies.

Self-efficacy or one's confidence is the ability to successfully perform an action. This refers to the successful uptake of exclusive breastfeeding which will be evidence by exclusive breastfeeding up to the age of six months.

This research is informed by the central tenets of the social determinants of health framework. This upstream view of health postulates that healthcare is more than tertiary health care and curative measures. The key to achieving population health is to effect positive change in each of the interrelated determinants. The underlying tenet of the determinants of health proposes that the physical, social, and cultural environment people live within shapes their overall health and health potential.

Conceptual framework

This conceptual framework focuses to inform the relationship between the independent, intervening and dependent variables. It has been constructed based on the health belief model. The objectives as independent variables are based on the four constructs of the theoretical framework, cues to action as the intervening variables represented by the hospital and government policies in the study and self-efficacy as dependent variable depicted as successful exclusive breastfeeding

The following is a diagrammatic flow of health belief model indicators as applied in conceptual frame work:

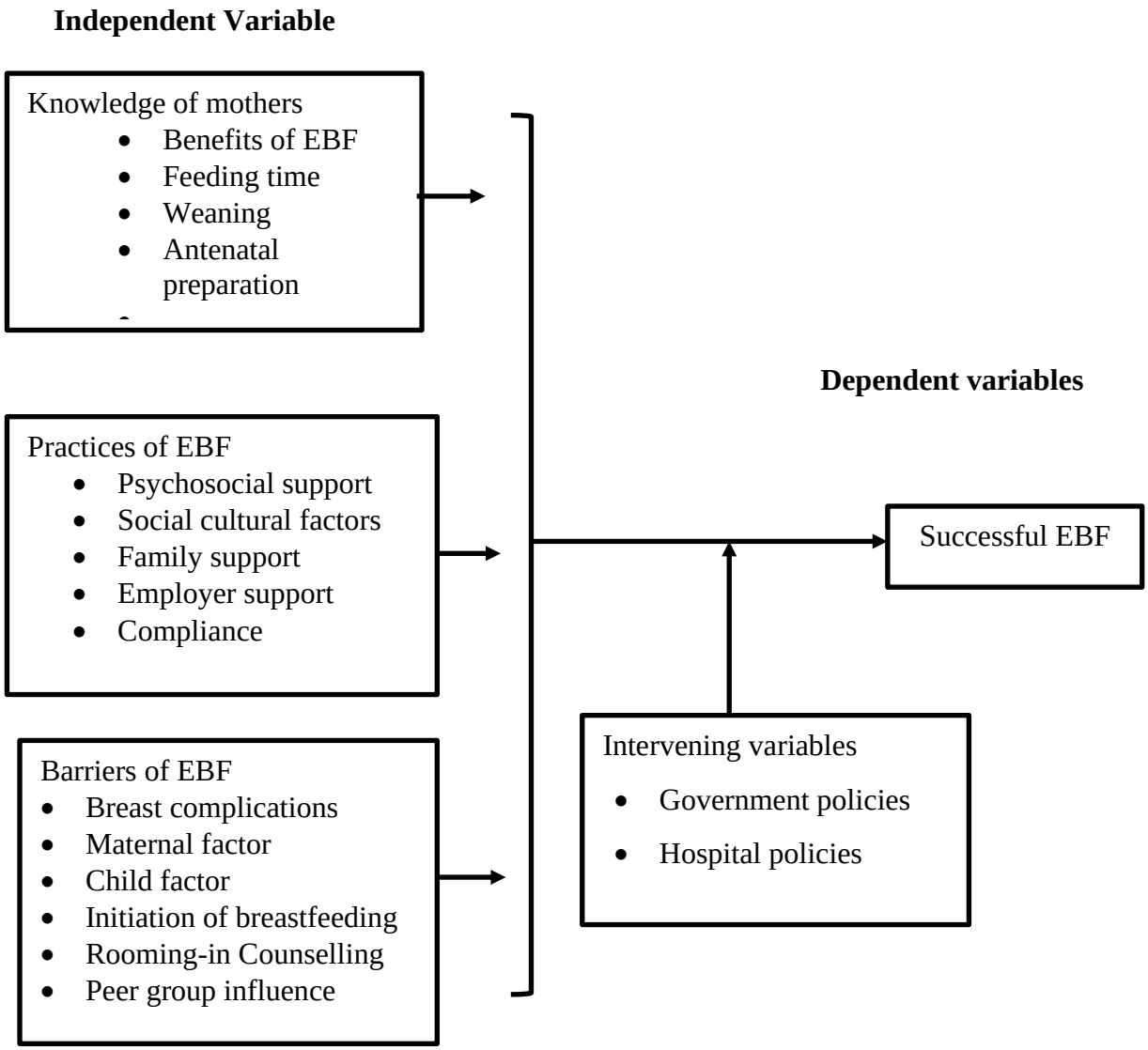


Figure 1: Conceptual Framework Adopted and Modified from Rosenstock 1988 Health Belief Model.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter summarizes previous studies carried out on factors associated with exclusive breast feeding. Available literature indicates that studies have been done on knowledge, practice and barriers of exclusive breast feeding.

2.1 Background

Breastfeeding is exceptional in providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Review of evidence has shown that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond (WHO; UNICEF, 2018).

Despite the World Health Organization recommendation of exclusive breastfeeding for the first six months of life, the practice is still at low rate especially in the developing countries. WHO, 2018 Global breastfeeding score card which examined 194 nations showed that 40% of children less than six months were exclusively breastfed and 23 countries have EBF rates above 60%, Kenya and Uganda being among the countries.

Exclusive breastfeeding is extremely important in developing countries where limited access to clean water increases the risk of diarrheal diseases if alternate feeding is to be used (UNICEF, 2013). Other factors which render exclusive breastfeeding very important in developing countries include high rates of HIV, poverty and food insecurity as in lack of enough nutritious food for children and mothers (UNICEF,

2013). While breastfeeding rates are no longer declining at the global level, with many countries experiencing significant increases in the last decade, 38% of the children less than six months of age in the developing world are exclusively breastfed. Mixed feeding, or giving other liquids and or foods together with breast milk to infants under 6 months of age, is widespread in many countries and poses risks to an infant's health.

Exclusive Breastfeeding contributes to infant nutrition and health through a number of important mechanisms. It provides a complete source of nutrition for the first six months of life, half of all the requirements in the second six months of life and one-third of the requirements in the second year of life. Breast milk promotes sensory and cognitive development and protects the infant against infectious and chronic diseases. Colostrum is the baby's first immunization as it contains high levels of antibodies, vitamin A and other protective factors. It is the most potent natural immune system booster known to science. Breastfed children exhibit greater resistance to infectious diseases and stronger immune system and therefore experience lower rates of chronic diseases (Masson, *et al.,* 2013).

The Baby-Friendly Hospital Initiative (BFHI) guidelines which was established in 1991 by WHO and UNICEF outlines that a mother should be assisted to initiate breastfeeding within an hour of birth and educated on exclusive breastfeeding practices. The aim is to equip the mother and the family with quality information infant feeding practices that in turn have an impact on duration of EBF (UNICEF 2018).

For mothers to be able to breastfeed exclusively to the recommended 6 months, it is important to understand that they are factors that affect EBF. Various studies have been documented and various factors have been found to be associated with breast feeding initiation and duration, and EBF. These include: demographic factors (e.g. level of

education, parity, urban verses rural residence); biosocial factors that include support in clinical and community settings); cultural factors that include; beliefs, norms and attitudes towards breast feeding; socioeconomic status; and employment policies affecting how long an infant can be in close proximity to the mother (Mututho *et al.,* 2017).

In Nyanza a longitudinal study examined HIV infection, hunger, self- efficacy and depressive symptoms as factors associated with EBF. The findings identified that HIV positive mothers are more likely to practice EBF than the HIV negative mothers, high self-efficacy mothers were not able to likely discontinue with EBF even if they are experiencing hunger challenges while on the other hand depressive symptoms contributed to the discontinuation of EBF (Tuthill *et al,* 2020). A maternal HIV positive status was found to be significantly associated with the practice of EBF in Gwanda District (Mugwano *et al.,* 2019)

Demographic characteristics

Demographic characteristics of both the mother and infants have in many studies been associated with exclusive breastfeeding. This characteristics affect the initiation of breast feeding and EBF at different rates and different direction depending on the community under study. There is enough evidence to show that maternal characteristic influence one's choice of exclusive breastfeeding. Maternal characteristics include age, marital status, level of education, economic status; support from a partner as well the community support. Infant demographic characteristics include; age, sex of the infant and whether the baby was born at term or not (Mututho *et al.,* 2017).

In China, regarding maternal characteristics, education level was identified as an influencing factor for EBF practice. Mothers with a college degree or above were

associated with a higher prevalence of EBF, which was consistent with previous studies in developed countries (Li *et a*l 2021). Similar findings were also noted in Somali, mothers who had attended secondary school and above were likely to practice EBF than those who had not (Jama *et al.,* 2017).

In Thailand studies shows that mothers who are above twenty-five years are more likely to achieve EBF than their younger ones this could be related to a cognitive theory that a responsible behavior is correlated with age (Thepha *et al.,* 2017). Inversely, while in Gambia women aged 26- 34 years were less likely to practice EBF, while those below 25 years were more likely practice EBF (Seghor 2018). Similar findings in Zimbabwe mothers was identified where being less than 25 years of age was associated with less likely hood to practice of exclusive breastfeeding in Gwanda District than being above 25 years. (Mugwano *et al.,* 2019).

Some studies show that mother's level of education affected the practice of EBF. In Indonesia, A better education tends to give mothers more possibilities of EBF (Laksono *et al.,* 2021). This finding is in line with findings of other studies like a study done in Nigeria showed educational status of the mother on importance of breast milk to the baby contributed to high uptake of EBF while factors like maternal age, occupation, marital status and support from the partner did not have any association with EBF (Sholeye *et al.,* 2015). High maternal education in a different study was associated with a greater likelihood of exclusive breastfeeding compared to mothers with no education (Ogbo *et al.,* 2015), which was contrary to a study in USA where together with maternal education, partner support had an association with exclusive breastfeeding.

Findings from another study in Ethiopia reported that mothers with less income status were positively associated with practice of exclusive breastfeeding, contrary to a study

in Somalia where less income mother were less likely able to practice of EBF (Jama et al 2017). Some mothers in Uganda who are of higher economic status were reported to prefer feeding their babies on breast milk substitutes rather than to exclusively breastfeed them, this is because of the belief that breast feeding was for the poor (Rujumba *et al.,* 2021).While a different study in Uganda identified four socio-demographic characteristics as be significantly associated with exclusive breastfeeding; these include mother's age, employment status, religion, and education level (Nteziyaremenye *et al.,*2021).

Mothers who are unemployed are more likely to practice exclusive breastfeeding unlike their counterparts (Shiferaw, 2017). Mothers who are not working are likely to practice EBF because they are available at home hence are able to breast feed throughout.

While in a different study among the mothers of Tigray regions of Ethiopia infant age, delivery place, marital status of the mother and breastfeeding counseling during pregnancy were identified as associated factors with EBF (Hagos & Tadesse, 2020).

Giving birth in a hospital set up has been associated with EBF. In Ethiopia Mothers who gave birth in health facilities practiced EBF twice more than the mothers who delivered at home (Hagoss & Tadesse 2020). Similar findings was reported in Uganda this could be attributed to the fact that more reliable information on EBF were given by health care providers than the information given at home (Bbaale, 2014).

2.2 Knowledge of Mothers on Exclusive Breastfeeding

One of the ten steps to successful breastfeeding is discussing the importance and the management of breastfeeding with pregnant women and their families, this will ensure that the mother has the necessary information and skills to practice EBF (UNICEF, 2018). Previous studies show there are several elements concerning knowledge on exclusive breastfeeding such as benefits of EBF to the mother and baby, benefits of colostrum, appropriate feeding times, duration of feeding, period of commencement of complementary feeding and knowledge about breastfeeding problems.

Breast milk is the natural first food for babies, it provides all the energy and nutrients that the infant needs for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life. Breastfeeding contributes to the health and well-being of mothers; it helps to space children, reduces the risk of ovarian cancer and breast cancer, increases family and national resources (Victora, *et al.,* 2016).

Maternal knowledge on the advantages of breast milk strengthens her intention to breastfeed, and in addition increase the duration of breastfeeding (Thepha, 2017, Jama *et al.,* 2017). In Rwanda mothers had positive attitude towards EBF as (96.4%) of the participants mentioned that breast milk as a natural food for babies that contain all nutrients, (82.1%) knew breastfeeding reduces the risk of malnutrition and obesity in children, about 78.0% admitted that breast milk may protect the baby against infection and chronic diseases, (96.2%) identified breast milk to be safe, hygienic and always available when needed (Luo *et al.,* 2021).

In Nyanza greater proportion of women who intended to exclusively breastfeed for six months ultimately did so (57.3%) while to those who did not intend to exclusively

breastfeed (40.9%) (Tuthil, *et al.,* 2020) Knowledge on importance of breast feeding were reported among (74.6%) of mothers who also knew that breast milk is nutritious in a study group in Kenya. The mothers were able to initiate breast feeding within the first 30 minutes after delivery, knew the colostrum was good for the baby and had expressed positive intention to continue with EBF (Boor *et al.,* 2018).

It is therefore important to improve on strategies, education and training on information concerning exclusive breastfeeding in order to be able to reach mothers with low knowledge on the benefits and optimal duration of exclusive breastfeeding. This is a significant rule that should be embraced and notified as a crucial strategy for maternity care during pre and postnatal period for successful EBF results.

Empowering women with knowledge on importance of exclusive breastfeeding is essential in achieving the practice, since EBF is a learned behavior which requires a will to do it. It is also known that when women are informed, empowered and supported to breastfeed, the benefits extend to their children, to themselves and to society as a whole (WHO, 2018). A better education tends to give mothers more possibilities of EBF (Laksono *et al.,* 2021). Mothers can be empowered through the prenatal education on exclusive breast feeding in order for them to make breastfeeding as a choice of feeding their infants.

In Nigeria the benefits of breastfeeding was reported by 93.2% among respondents, with 95.9% of mothers practicing exclusive breastfeeding being aware of the benefits (Sholeye, *et al.,* 2015) which was similar to the study in Ethiopia that indicated The majority (97.5 %) of mothers reported that they had ever heard about EBF from one or more sources. The main sources of information for mothers on EBF (90.5 %) were from the health workers, followed by mass media (radio or television) (30.4 %) (Aswaf *et*

al., 2015).The same study also revealed that mothers who had received counselling on infant feeding had more adherence of EBF practices. In Zimbabwe majority of mothers (89%) had knowledge about EBF and (84%) expressed a positive attitude towards the practice, however, (36%) practiced exclusive breastfeeding. The most common complementary food/fluid given to the infants was plain water (Mudagowa *et al.,* 2019).

A different study indicated that if pregnant women are counseled properly on the benefits of exclusive breastfeeding, they are more likely to practice exclusive breast feeding than their peers who were not counseled (Akpor*et et al.,* 2016), while in Ghanathere was poor knowledge and practice with regards to EBF for the first six months among postpartum mothers (Nukpezah, *et al.,* 2018). In Malawi a positive association between advice from health workers and exclusive breastfeeding was identified among the participants (Kunchenbecker *et al.,* 2014).

According to a study conducted by (Setegn *et al.*, 2012), most of the mothers in slum areas had limited knowledge on exclusive breastfeeding. Some of the mothers did not even know what exclusive breastfeeding was. Similarly, in Goba District Ethiopia, lack of adequate knowledge was also acknowledged by some mothers. Besides the inadequate knowledge, health workers acknowledged that despite the effort that they had put in, some of the mothers did not consider breast milk as adequate and important (Setegn, *et al*, 2012).

Maternal knowledge that breast milk should be baby's first feed, that colostrum should be fed to the baby and the protective effects of breast milk on baby's health were particularly high in a study done in Kenya (Wanjohi*et et al.,* 2017), (Njeri, 2012) Similarly, the importance of giving colostrum was widely mentioned by the mothers in Bagladesh and 96.5% reported feeding colostrum to their infants (Khatun *et al.,* 2018).

While knowledge that expressed breast milk should be fed to the baby and that breastfeeding could protect a mother from getting pregnant was low in among mothers of Kasarani informal settlement in Molo study (Njeri, 2012).

According to (Kimani *et al*, 2015), the main sources of breastfeeding information are the health facility and relatives with 56.0% of the mothers receiving breastfeeding counseling from health facilities; 44.0% from relatives; 25.0% from the radio and 12.5% from schools and neighbors in Kibera slum, Nairobi Kenya. Government health facilities in Kibera served as the main source of breastfeeding education for the mothers (55.2%) and that only (2.3%) received breastfeeding education from the media. In respect to the time of breastfeeding education, 55.2% and 36.2% of the mothers received education during antenatal and postnatal visits respectively. Similar to what had been reported in a study conducted in Kasarani informal settlement in Molo by (Mututho, 2012) where 74.2% received breastfeeding information from health facilities, 12.6% from family, friends and relatives, 7.3% from media and 5.3% from other sources such as church. Others got information from their own mothers or mother in-laws and Traditional Birth attendants (TBAs). Further studies in Kangemi-Nairobi Kenya indicated that mothers received information on exclusive breastfeeding through media such as television and newspapers. Newspapers were found to significantly influence exclusive breast feeding (Ayisi *et al.,* 2014), while in Nandi majority of the mothers (80.1%) reported to have received counseling on breastfeeding and the main source of breastfeeding counseling was the health facility (74.2%) (Tarkwen ,2020)

Mothers exposed to mass media have been reported to have increased awareness and use of health intervention strategies. The use of radio and television should be encouraged among mothers as an additional source of health information, because of their wide coverage.

While the quality of knowledge and support from the health care providers has a crucial role in the success of breastfeeding, the health providers are sometimes faced with challenges. In a study in Mozambique health providers mentioned work overload as an impediment to provision of EBF counseling as high number of patients negatively impacted the quality of health talks, which included information on breastfeeding (Kavle, *et al.,* 2019). Inconsistent messages from health workers contributed to the discontinuation of EBF in a study in South African. Therefore, it is the responsibility of the health professionals to equip themselves adequate knowledge in order to be able convey the required information on EBF.

Mothers in a study in Tanzania did not fully understand the majority of the health benefits of breastfeeding, to both the infant and the mother, suggesting a need to emphasize this information in antenatal breastfeeding education in the population studied. Women who attended antenatal care from tertiary care centers and from private practitioners had better breastfeeding scores (Mbwana *et al*., 2013). In Ugandan study most of the mothers reported that they have heard about EBF and the main source of information was from the health care workers (Rujumba *et al.,* 2020).

Mothers from Kasarani slums in Molo, reported that they were educated on how to introduce food when the child is six months old; clean the breasts before breastfeeding the child; breastfeed for at least fifteen minutes on each breast and that when a child is born should be put to the breast after 30 minutes. Mothers were knowledgeable on benefits on EBF, meaning of EBF and some of them agreed with messages given on EBF (Mututho, 2012).

Mothers who practice rooming in with their infants reported higher supply of breast milk among the Indonesian women, this could be attributed to the fact that these

mothers were able to breast feed on demand and the stimulation of the nipples caused by the constant touching of the baby lend to the stimulation of let down reflex of milk secretion. The higher perception of this women linked them to EBF their babies (Sandhi *et al* 2020). Rooming in is important because it allows mothers to recognize and respond to their infant's needs. Compared with women who are separated from their newborns, women who room-in produce more milk, produce a copious milk supply sooner, breastfeed for longer durations, and are more likely to breastfeed exclusively (Ragusa et al 2021), similarly, in a study first-time mothers who practiced full rooming-in during hospitalization were more likely to EBF than their counterparts practicing partial rooming-in to be exclusively breastfeeding at discharge (Wu *et al.,* 2022).

2.3 Practice of Exclusive Breastfeeding

Many factors contribute to creating a conducive environment for exclusive breastfeeding practice. These involves: national policies guaranteeing parental leave and provision of conducive rooms for mothers to breastfeed their babies at the work place, health facilities giving information on exclusive breastfeeding immediately after birth and ensuring continuity beyond and in the community positive social norms, support from trained counselors and peers including grandmothers, family members, partners empower women to practice of exclusive (UNICEF, 2018).

The successful practice of EBF depends on the hospital facilities and their policies in the caring for mothers both in antenatal period and postnatal. Wherever there is a policy that cares for the mothers it should be reflected in the care of the new born. It is therefore important to put together the interventions that promote EBF in the hospital and support for continuity even at the community level (Nukpezah *et al.,* 2020).

Health care providers play a key role in promoting the practice of exclusive breast feeding. They are responsible for increasing the appropriate behaviors regarding EBF. In Italy, despite the good knowledge on benefits of EBF, 33.3% practiced EBF. The practice was associated to hospital stay and receiving a recommendation to exclusively breastfeed during discharge (Cascone, *et al.,* 2019). Mothers in the study were able to initiate breastfeeding during the hospital but sustainability of practicing EBF was not achieved once they left the hospital hence contributing to low rate of EBF. I n a study among the Mexican mothers, the main barriers for timely initiation of EBF was identified as maternal and child hospital care practices, including use of infant formula to feed newborns, lack of support to women to initiate breastfeeding and births by cesarean section (Hernández-Cordero *et al.,* 2020)

Antenatal classes and hospital delivery contributes to exclusive breastfeeding. A study in Nigeria found out that mothers who visited the antenatal clinics were positively associated with EBF and mothers who resided in rural areas were less likely to practice exclusive breastfeeding (Ogbo *et al.,* 2015). (Seid *et al.,* 2013) have reported in Ethiopia that being a housewife, having prenatal EBF plan, giving birth vaginally and receiving infant feeding counseling was associated with the practice of exclusive breastfeeding. In Ghana a study among working mothers revealed that antenatal sessions served as the greatest source of information for exclusive breastfeeding. The respondents indicated that their source of knowledge on exclusive breastfeeding began when they started attending antenatal clinics, this counseling and education was given by nurses and midwives (Nkrumah *et al.,* 2020). This is consistent with other findings from Ethiopia where mothers who attended the antenatal counselling sessions on infant feeding were more likely to practice EBF. Inversely the low level of knowledge in Kilifi mothers on benefits of EBF and breastfeeding practices was because most mothers did not attend

the antenatal clinic and most deliveries were done at home and the information on EBF was most likely given by other female family members rather than the health care workers (Talbert *et al.,* 2016).

In Ethiopia women who had a hospital delivery were 2.2 times more to practice exclusive breast feeding than women who had a home delivery reason being those of hospital delivery have greater opportunity to receive counseling from health professionals on postnatal care and EBF(Aleben *et al.,* 2018). There is need for health care workers to provide enough information onto the women and their partners with the importance of EBF and encourage them to have a hospital delivery during the antenatal visits.

A study of two slums in Nairobi, (Wanjohi *et al.,* 2017), cited cultural and social beliefs to be influencing factors of exclusive breastfeeding, which was similar to a study in Tanzania where different beliefs, social and cultural practices among the nursing mothers hinder the practice of EBF (Mgongo *et al.,* 2019).

When mothers choose to practice exclusive breast feeding, they need support from the government, health systems, work places, communities and family in order to make it successful (UNICEF, 2016). It is the government duty to have regulatory laws and policies that reflect collective responsibility to protect, promote and support exclusive breastfeeding. The government can also support exclusive breastfeeding by adequately funding implementation and interventions that promote exclusive breastfeeding (UNICEF, 2016), (WHO, 2018).

Support for breastfeeding in the workplace includes several types of employee benefits and services, including writing corporate policies to support breastfeeding women; teaching employees about breastfeeding; providing designated private space for breastfeeding or

expressing milk; allowing flexible scheduling to support milk expression during work; giving mothers options for returning to work, such as teleworking, part-time work, and extended maternity leave; providing on-site or near-site child care; providing high-quality breast pumps; and offering professional lactation management services and support (UNICEF 2018). Globally work has been reported to be a barrier to EBF (WHO, 2018).

In Kenya the baby-friendly workplace support intervention promoted EBF and were particularly supportive in increasing EBF likelihood beyond 3 months, which is the age in Kenya beyond which support for maternity leave ceases for those working in the formal sector (Kimani -Murage *et al.*, 2021).

Studies indicate that working mothers who have convenient access to their infant during working days or are able to conveniently express breast milk at work with good storing facilities have longer breastfeeding duration than other mothers (Weber 2011), and some countries like India and Vietnam have been successful in promoting EBF through successful 6 months paid maternity leave and other legislative regulations (UNICEF 2018)

In Ghana, a study among the working mothers showed that the working environment was not conducive for EBF despite that, the promoting factors to practice EBF among was a provision of maternity leaves for 3 months though they reported that it was short in consideration that the period of EBF is six months this was achieved together with early closing hours for the breastfeeding mothers and expressing breast milk so that the baby is fed with for the period the mother is away (Nkrumah, *et al.*, 2020).

According to KDHS 2014, 61% of work task force are women consisting of those employed and those who are involve in business sectors. The 2017 Kenya Health Act

bill states that all the mothers have the right to breast feed freely and hence support for the mothers to practice EBF at the work place is necessary.

In Kenya, mothers employed in low-wage work in Naivasha receive supports from their employers for infant care responsibilities. Despite having consistent knowledge on child feeding recommendations and benefits of EBF, the need for mothers to return to work after maternity leave corresponds with numerous challenges. These include distance to childcare, inability to nurse during the workday and lack of support for and experience with milk expression, making EBF unattainable for most mothers in these industries (Ickes, *et al.*, 2021). Managers in the same study reported that the support mothers to practice EBF by providing them with flexible working hours but the mothers themselves prefer to either report late or leave early.

In line with the Baby Friendly Hospital Initiative, the 10th step recommends fostering the establishment of breast-feeding support groups where a mother can be discharge or referred to after delivery. The organized community-based support groups involves mother to mother support groups, peer- counselling groups and mother support groups which offer support with the main goal of increasing the length of EBF (Ochola *et al.*, 2020).

Community can be hostile or welcoming to a breast-feeding mother. A mother should feel safe and comfortable in order for them to practice exclusive breast feeding. A strong linkage between the communities and health facilities will encourage the community to support exclusive breastfeeding (UNICEF, 2016). Community can support EBF by raising awareness on the benefits of early initiation and practice of EBF, promote the role of partners in supporting the breast feeding mother in care of the infants and taking care of household chores, sensitizing peers and advocating for women's right to breast feed in public (UNICEF,2018). Exclusive breastfeeding rates can be increased when

hospital-based interventions are complemented with community-based interventions that build on the existing healthcare infrastructure in rural areas (Kimani- Murage *et al.,* 2020) In Kitui, a study noted that a mother-to-mother community support group provided a good environment where mothers obtained their information on EBF from both the peers and the health workers. The support group would enable them to share EBF knowledge, influence each other attitude towards EBF and appropriately receive adequate government interventions in promotion of infant feeding programs. (Kitiyo *et al.,* 2020).

Peer support which is a constitute of community support can be provided by those currently breastfeeding or have done it in the past, the goal should aim at supporting those who are currently breastfeeding. It has been found to be effective in increasing the initiation and duration of exclusive breastfeeding (Shakya *et al.*, 2017). However, proper training to the peer supporters should be done in order to ensure the right information is given. In Uganda, involving of peer counsellors in the community has been identified to increase the EBF practice, this is likely because the trained peer counsellors are in living in the same community with the breastfeeding mothers and are speaking the same language. It was also noted that exclusive breastfeeding messages in antenatal and postnatal care clinics as well as community outreach sessions can be strengthened, and peer counsellors can build on them (Rajuma *et al.*, 2020)

Family support can be provided by the partners, grandparents and other family members. Their role is important because they influence the way the babies are fed. Mothers are able to exclusive breast feed when they are supported through positive encouragements and sharing of households' responsibilities (UNICEF 2016). Counselling couples when they are together on the importance of EBF and the practices shows positive impact than when you counselled the mother alone. The health care

providers should encourage the mothers to let their partners accompany them to the postnatal and antenatal clinics. (Ochola, 2012).

Lack of support from the husbands and pressure from some grandmothers on their daughter in laws could encourage discontinuation of exclusive breastfeeding, it's because the grandmothers believe that introducing semisolids or water alongside breast milk could enable a child to grow faster and allow their mothers to resume economic activities without prolonged break (M. Agunbiade, 2012). Poor partner support was identify in Kenya among the mothers living in poor urban region this include; husbands beliefs that breast feeding is a woman's business and hence would not bother to offer support, competing for attention from the mother with the baby and will ask the mothers to stopped breast feeding and other were alcoholic and will quarrel a lot making EBF unsuccessful (Kimani-Murage *et al.,* 2014).

Among the Chinese community living in Ireland facing challenges like adjusting new environment, and common lactation problems the favorable factors that enable them to successful breast feed include; strong self-determination, appropriate physical conditions, awareness of the benefits of exclusive breastfeeding, a lack of time constraints, support from the people around them and policy support (Zhou *et al.*, 2020).

In Tanzania a study found that there are many social, beliefs, and traditions that the mothers consider important for their breastfeeding and EBF practices. Those which was in favor for the practice of EBF include; breastfeeding creates happiness, is good for the family economy, prevents child sickness, and breast milk is the only food for the child and a gift that the mother can give to her child while those was not in favor of EBF practice include breast milk is very light, breastfeeding affects mothers appearance, breastfeeding is tiring, breast milk has a bad odor, fear of the evil eye,

breast milk may become unclean, and burping causes pain to the breasts (Mgongo *et al.,* 2019).

In Uganda, a cultural belief that expressing breast milk in case a mother was to be away was viewed as a taboo in Mbale community the main reason being expressing breast milk would lead to death of children and family isolation (Rujumba *et al.,* 2021).While (Nteziyaremenye *et al.,* 2021) identify in his study that cultural belief had an influence on EBF, the participants in his study belief that when a mother becomes pregnant while still breastfeeding she should stop even if the other baby is just one month old.

A study of two slums in Nairobi cited cultural and social beliefs to be the influencing factors of exclusive breastfeeding. The belief that colostrum is 'dirty' or curdy like and breast feeding makes the breast to 'sag' was a commonly reported among a certain community this leads to early introduction of complementary food making EBF unsuccessful (Wanjohi *et al.,* 2017). Similar findings were identified in Kilifi where the cultural practice of additional fluids given to newborn meant for medicinal purpose to clear the gut and in report of abdominal discomfort was reported in the study (Talbert 2020).

In Narok county, cultural responsibilities that mothers play contributed to the low rate and practice of EBF. Mothers in the community had resume to their household chores like taking care of the animals and fetching water immediately after delivery which are often far from their homes because of resource limitation in the community. In such cases the infant is usually left in the care of the grandmothers or older children which in turn feeds the infant with complementary feeds when the mother is away (Mapesa *et al.*, 2020). In a cross-sectional study in rural Kenya mothers' physical appearance was identified to be important as 20-30 % of the mothers indicated that mothers who

practiced EBF looked thinner or had more sagging breasts (Gewa & Chepkemboi 2016).

2.4 Barriers of Exclusive Breastfeeding

One of the most important factors that influences the initiation and continuation of breastfeeding is the provision (or lack thereof) of proper information and support to the mother during both the antenatal and post-natal periods. Prenatal education on EBF can affects a mother's decision to even consider it as a feeding option. Various studies have indicated that mothers who get skilled support and advice on breastfeeding tend to have more positive opinions regarding breastfeeding and tend to breastfeed longer. Interventions aimed to increase the breastfeeding knowledge of healthcare providers have been shown to increase breastfeeding initiation rates and further skilled support from healthcare providers tends to increase the length of time mothers exclusively breastfeed (Mohammed *et al.,* 2018).

Barriers of exclusive breastfeeding include**,** Engorgement of the breast, breast pain due to insufficient milk removal, mastitis, breast abscess, blocked ducts and feeding difficulties due to the baby's condition like cleft lip, cleft palate, tongue tie, blocked nose, down syndrome, prematurity and illness (Diane & Fraser 2017). Poor latch and positioning, perceived insufficient breast milk and breast engorgement emerged as barriers to EBF was reported in a study in Napula Mozambique the health care providers in the study community lacked the knowledge, skillset, and self-efficacy to manage EBF problems, and little counseling was provided at community or facility levels (Kavle *et al.*, 2019). Similar findings was identified among the Mexican mothers at one month post-delivery which include beliefs and perceptions about milk insufficiency and common difficulties faced during breastfeeding were sore/cracked

nipples. The recommendation on use breast milk substitute by health personnel and family members, were identified as barriers (Hernández-Cordero *et al.,* 2020)

In Ethiopia mothers without a breast complication practiced exclusive breastfeeding more than mothers who had breast complications (Adugna *et al.,* 2017). In Kenya Kilifi 80% of the respondents reported breastfeeding problems. Nipple pain (56 %) was the most reported problem, then breast engorgement (48 %) and insufficient milk supply (38 %). Most problems were treated at home without consultation with health workers (Talbert *et al.,* 2016).

Maternal perception on breast milk supply is an important aspect in obtaining optimal EBF practices. Among the Indonesian mothers those who practiced skin to skin contact with their babies were more likely to have higher levels of perceived milk supply resulting to higher rates of EBF (Sandhi *et al.,* 2020).

In Italy, mothers reported the reasons why the stopped practicing EBF as follows; maternal perception of insufficient breast milk (65.5%), difficulty and pain during breastfeeding (19.5%), voluntary termination because it was stressful (17.6%), and an inadequate increase in the weight of the child (5.7%) (Cascone *et al.,* 2019) and a different study in Italy early discontinuation of breastfeeding was also associated with maternal problems, like maternal illness, breast pain, discomfort to breastfeeding in public, or with newborn illness (Bellu & Condo,2017).

Similarly, a constant barrier to exclusive breastfeeding was reported in South Africa as the perception of lack of sufficient breast milk to sustain the baby, depicted by constant crying, baby wanting to hold the breast for longer period and lack of breast milk when the breast is expressed (Jama *et al,* 2017). This forced the mothers to introduce other feeds to the baby despite being aware that breast milk is the only food for the baby.

Perceptions that hinder mothers from practicing exclusively breastfeeding were also noted in a study in two slums in Nairobi by (Wanjohi, *et al.,* 2017).These include the perception that some mothers do not have adequate breast milk and that breastfeeding exclusively or for six months causes difficulties in initiating complementary foods. Similar findings were identified in Tanzania where the respondents reported breast milk insufficiency, baby being thirsty and need to introduce herbal medicine (Maonga *et al.*, 2015). Milk insufficiency is a modifiable factor that can be managed.

Infant-related factors that are found to affect EBF include the infant's temperament, illness, hospital admission, lack of effective suckling, nipple confusion and negative previous experiences (Thepha *et al.,* 2017). Infants who are put to breast immediately after delivery have shown to continue breastfeeding longer than those whose first breastfeeding was delayed.

Lack of support from the husbands and pressure from some grandmothers on their daughter in laws could encourage discontinuation of exclusive breastfeeding, this is because the grandmothers believe that introducing semisolids or water alongside breast milk could enable a child to grow faster and allow their mothers to resume economic activities without prolonged break (Agunbiade & Ogunleye, 2012). Mothers may have the information on EBF but grand mothers and fathers may be lacking the information on and support for EBF hence becomes significant barrier to the continuation of breastfeeding. Grandmothers interviewed as the main source of information on infant feeding practices to first time mothers in a study in Kilifi admitted that they may not have current information concerning EBF (Talbert *et al.,* 2016).

Child factors such as the age and sex of child have also been indicated to predict the practice of exclusive breastfeeding. Mothers with female infants are likely to practice

exclusive breastfeeding than those with boys (Salim & Stones, 2020), this could be due to perception that breast milk alone is not adequate to meet the boy's demand. Similarly in Nigeria, female infants are more likely to be exclusively breastfed than their male counterparts this is because of belief that boy's breastfeed a lot and hence weaken their mother, also infants aged less than 2 months are more likely to be exclusively breastfed (Ogbo *et al.,* 2015). Sex differences in EBF was also apparent in Kenya where beliefs that male infants are not adequately satisfied by breast milk and their demands are higher than the females, prompting early weaning practices (Wanjohi *et al.,* 2017).

Poor latch and positioning, perceived insufficient breast milk and breast engorgement emerged as barriers to EBF in a study done in Mozambique (Kavle, *et al.,* 2019) while in Kenya , a similar study in Molo elicited most common complications as painful breasts (49.0%), inadequate breast milk (17.6%) and baby refusing to breastfeed 15.7% (Njeri, 2012) as barriers of EBF.

The beliefs that breast milk alone is not enough to support optimal growth and that some mothers naturally do not produce enough milk, were common reasons for not practicing exclusive breastfeeding and for the introduction of other foods earlier than six months. Strategies to improve the maternal health diet was reported as the primary way to address perceived insufficient breast milk and health care providers advice breastfeeding mothers on essential diet to consume in order to increase breast milk supply (Kalve, *et al.,* 2019).

When the support and advice given by healthcare providers is not adequate and appropriate, breastfeeding outcomes are negative. Healthcare providers who do not receive training in breastfeeding counseling are not confident in their ability to support and advise women, thus they are notable to give proper counseling. Effective

information, technical and emotional support to breastfeeding mothers is important; hence the supportive behavior of nurses was determined by their knowledge regarding breastfeeding and the way they intended to give support. Women experienced inadequate social, health care and work place support and preferred online sites though some women indicated that it lack the in depth information (Wanjohi *et al.,* 2018).

2.5 Summary of Literature Review

In summary, exclusive breastfeeding for infants less than six months old has increased in different regions of the world. The increase however, falls short of the WHO's recommendation of exclusive breastfeeding for six months. To improve the EBF out comes and meet the global breastfeeding target of 90%. The focus should on improving the modifiable factors that include knowledge, practice and barriers of EBF. Knowing where the progress has been, where there is need to allocate additional resources and who to specifically target in increasing of EBF outcomes is necessary. This is necessary in either scale up or making adjustment of EBF practice in Kenya. Studies have shown that maternal characteristics, socio-economic factors, contextual factors and beliefs and norms about breastfeeding practices influence exclusive breastfeeding in varying magnitude in different set ups. A search of literature however revealed that there is limited information on factors associated with exclusive breastfeeding in Africa as well as in Kenya. This study therefore aimed at investigating the factors that are associated with exclusive breastfeeding in order to fill the research gap.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter described the study design, the study area, study population, sample size determination, sampling technique, study instrument, pilot study, reliability, validity, data management and analysis tool, inclusion criteria, exclusion criteria, assumptions and ethical considerations.

3.1 Study Design

The study adopted a quantitative descriptive cross sectional study design. (Ogula, 2010) asserts that this method is used to describe characteristics of respondents for the purpose of building theories or generalizations about the population they represent. He further adds that the designs are used to collect descriptive data regarding performance of specific organizations, current practices, characteristics of existing populations and barriers.

3.2 Study Area

The study was conducted at Moi Teaching and Referral Hospital in MCH at Eldoret town Uasin Gishu County. MTRH is a level 6 public Hospital and is the referral Hospital for the entire Western Kenya covering over 22 counties, parts of Eastern Uganda and Southern Sudan with a catchment population of approximately 24 million people. MTRH is also the Teaching Hospital for Moi University College of Health Sciences that trains both undergraduate students and several masters' students in health specialist programs. Several other Medical Training Institutions use MTRH for clinical training.

The Hospital has an in-patient capacity of 1000 beds with an average of 1200 in-patients at any time, with several care takers for the very sick and mothers accompanying sick children. At least 1000 babies are seen in the Child Welfare Clinic (CWC) monthly.

3.3 Study Population

The study populations were mothers of babies less than six months seeking services at child welfare clinic at MTRH.

3.4 Sample Size Determination

The sample size for finite population was adopted ;(Godden, 2004)

$$SS = \frac{Z^2 \times P\ (1 - P)}{M^2}$$

SS=sample size for infinite population (more than 50,000)

Z=Z value (e.g. 1.96 for 95 % confidence level)

P= population proportion (expressed as decimal) (assumed to be 0.5 (50 %) Since this would provide the maximum sample size)

M= Margin of Error at 5% (0.05)

$= \frac{1.96^2 \times 0.6\ (1-0.6)}{0.05^2}$ $= \frac{3.8416 \times 0.24}{0.0025} = \frac{0.921984}{0.0025}$

=370

In addition; 10% increase in sample size was included to give room for attrition making a total of 407 participants.

3.5 Sampling Technique

Systematic sampling technique was used on mothers with infant less than 6 months. The mothers attending the clinic for one month were given numbers sequentially basing on the time they arrived at the clinic and the sample size and about 33 mothers are seen on daily basis; hence eleven mothers were picked on daily basis for a period of selected clinic days. The total population for the month was divided by the sample size to determine the K^{th} item (1000/370). The 3^{rd} number according to the calculation made from population and sample size was used to pick the first subject. If the person picked declines the researcher goes to the 4^{th} number in the column and repeat assigning new number. The numbers that were picked constituted the sample.

3.6 Study Instrument.

An interviewer administered questionnaire (Appendix 1) was used for data collection. The questions were adopted from a face- content validated questionnaire used in Kenya (Ochola, 2008), and customized for this study based on objectives. The reliability of the tool before being adopted was (08 according to Cronbach alpha). The questionnaire offered considerable advantages in the administration. It also presented an even stimulus potential to a large number of people simultaneously and provided the investigation with an easy accumulation of data and it consisted of three parts namely; knowledge, the practice and barriers of exclusive breastfeeding. The instrument ensured anonymity of respondents as their identities were not requested. Other notable strengths included simplicity in testing for reliability and validity. Both closed ended and open ended questions were used in collecting data.

3.6.1 Reliability

Reliability is defined as a measure of the degree to which a research instrument yields consistent results or data after repeated trial (Mugenda & Mugenda, 2003). The instruments were tested for reliability in Uasin Gishu County Referral Hospital. The reliability of the data collection instrument was tested using Cronbach's coefficient test. For this study, a reliability of 0.7 was used (Cronbach & Richard, 2004; Mugenda *et al.,* 2003).

3.6.2 Validity

Validity is defined as the degree to which the sample of the test represents the content that the test is designed to measure. All measurements of validity are subjective opinions based on the judgment of the researcher. In this study the pre-test helped in improving the face validity of the instruments. Content validity improved through expert judgment. For expert judgment, the researcher sought from the research supervisors.

3.7 Pilot Study

The purpose was to determine the feasibility of the study and to identify any problems with the research design. The pretest was carried out at Uasin Gishu County Referral Hospital which is an urban facility hence mothers attending MCH services had the same characteristics to those of MTRH and no inadequate results were noted. Since the sample size was 370 a total of 37 breastfeeding mothers which represented 10% of the sample size were interviewed. The results enabled the researcher to assess the clarity of the questionnaire items, it also provided a glimpse of the likely recruitment procedure and out comes, guided the preparation of data collection materials and refined the researcher and assistant's role

3.8 Data Collection Process

The researcher proceeded to collect data from the respondents after receiving approval from Institution of Ethics and Review Committee (IREC) of Moi University and MTRH and permission from Moi Teaching and Referral Hospital administration. An informed consent was sought from the respondents and questionnaires administered. Two research assistants were recruited and trained on the implementation of the data collection protocol which involved identifying the potential participants using the inclusion criteria. The mothers with babies less than six months in maternal child welfare clinic were then selected systematically while in the waiting bay as they wait for their services. Every 3rd mother according to the calculation from the sample size was recruited and when a person declined the researcher moved to the next, which is the 4th person. The purpose of the study was communicated both verbally and in written form and those who voluntarily consented required to sign the informed consent to participate in the study.

3.9 Data Management and Analysis Tool

On daily basis, data tools were checked for missing values and mistakes corrected before data entry.

The data collected was coded and entered into the computer and subsequently analyzed using Statistical Package for Social Science (SPSS) version 21.0 software.

A significant association between variables like; maternal demographic characteristics that include age, marital status, education and socio-demographic characteristics; education was measured against exclusive breastfeeding using Chi-square test. Univariate association between various factors that influence the practice and barriers of exclusive breast feeding was identified and multiple logistic regression was used to

make association between this factors and exclusive breastfeeding. The significance test was set at $p<0.05$ for all the analysis. The findings in objective 1 were presented in frequency distribution tables, bar graphs and pie charts. Averages and proportions in objectives 2 and 3 was analyzed using descriptive statistics.

3.10 Inclusion Criteria

All mothers having infants less than6 months were eligible to participate in the study.

3.11 Exclusion Criteria

- Mothers who were very sick or had sick infants therefore needed urgent attention to treatment were excluded from the study.

3.12 Assumptions

The study assumed that all mothers seeking MCH services gave honest and truthful information.

3.13 Ethical Considerations

3.13.1 Clearance by Ethics Committee and Permission to carry out the Study

Ethical approval was obtained from the institutional research and ethical committee of MTRH and Moi University.

Permission was sought from MTRH administration to carry out the study. Informed consent sought from the participants both verbally and in written form before administering the questionnaires.

3.13.2 Respect for Autonomy

The identified participants who met the eligibility criteria were given full information on the purpose and benefits of the study. After agreeing to participate they were given

a consent form to sign that gives details about the nature of the study. They were also asked to participate voluntarily and were free to withdraw from the study at any time.

3.13.3 Confidentiality

Confidentiality of the participants was assured by ensuring that their names do not appear in the questionnaires. All the respondents were assured that the information given was used for purposes of research and those findings will be communicated to them. Computerized data was protected by use of passwords and hard copies data was locked up and keys kept safe. Data was accessed by the principal researcher and the supervisors. Destruction of the hard copies or soft copies of the data will be done by deletion of soft copies and shredding of hard copies according to the school guidelines and policies upon completion of the study.

3.14 Reporting the Findings

The research findings were reported in the final thesis and the results will be published in the referred journals and presented in seminars and conferences

CHAPTER FOUR

FINDINGS

4.0 Introduction

This chapter presents the study findings as per the objectives of the study and interpretation of the data in form of tables, graphs, pie charts and descriptive statistics.

4.1 Socio-Demographics of mothers attending child welfare clinic

The mean age of mothers attending child welfare clinic was 29.74(±5.541), with a minimum age of 15 years and maximum of 43 years. From the table below 274 (74%) of the respondents resided in urban areas while 94 (26%) were from rural areas. In addition, 293 (80%) respondents were married, followed by single 53 (14%) and least 22 (6%) were divorced/separated. Majority of the husbands 248 (67%) had no formal employment whereas the least were self-employed 120 (33%). Most 200 (54%) of respondents had secondary level of education, followed by college 135 (37%), primary 32 (9%) while 1(0.4%) had none. Most 142 (39%) of mothers attending child welfare clinic had two children while 14 (3%) had five.

Table 1: Socio-demographic characteristics of the respondents

Variable	**Frequency**	**Percentage**
Residence		
Urban Area	274	74
Rural Area	94	26
Marital status		
Married	293	80
Single	53	14
Divorce/separated	22	6

Husband's Employment		
Non formal	248	67
Formal	120	33
Level of Education		
Secondary	200	54
College	135	37
Primary	32	9
None	1	0.4
No. of children		
Two	142	39
One	108	30
Three	65	18
Four	39	10
Five	14	3

4.2 Occupation of the respondents

Among the mothers sampled those doing business were 188 (51.4%) housewife 25 (6.8%) farmers, 22(5.5%) others, 13(3.6%), 7(1.9%) was recorded among casual laborers. This is illustrated in graph below:

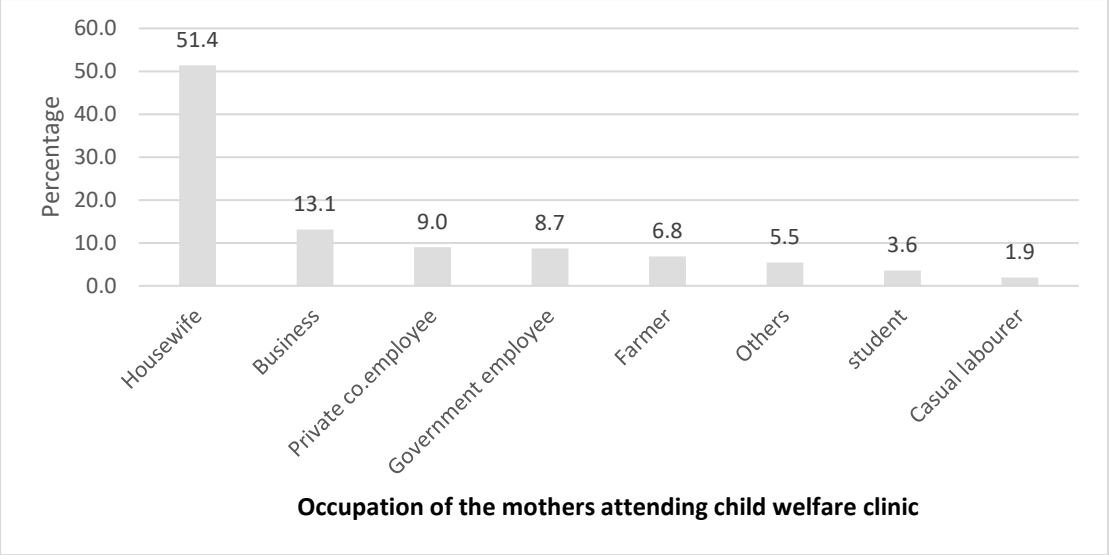


Figure 2: Occupation of mothers attending welfare clinic

4.3 Taking baby to work place

The study indicated that 346 (94%) of mothers attending child welfare clinic who worked away didn't take their babies with them while 22(6%) indicated that they took away babies with them to the work place.

4.4 Items owned in relation to media accessibility

From the multiple response table below, 224(81.3%) of respondents had telephone, followed by Television 201(73.1%), radio103 (37.5%) and those with video player were 2(0.7%).

Table 2: Items ownership

Items owned Frequencies				
		Responses		Percent of Cases
		N	Percent	
Items owned	Television	201	37.9%	73.1%
	Radio	103	19.4%	37.5%
	Telephone	224	42.3%	81.5%
	Video player	2	0.4%	0.7%
Total		530	100.0%	192.7%
a. Group				

4.5 Baby's Age

The mean baby's age in weeks was 10(±7.4222) with minimum and maximum age of one week and 26 weeks.

4.6 Parity of the respondents

The findings revealed that most 148 (40.4%) mothers attending child welfare clinic reported that their baby was second born while a least 43 (11.9%) reported fourth born as shown in the graph below:

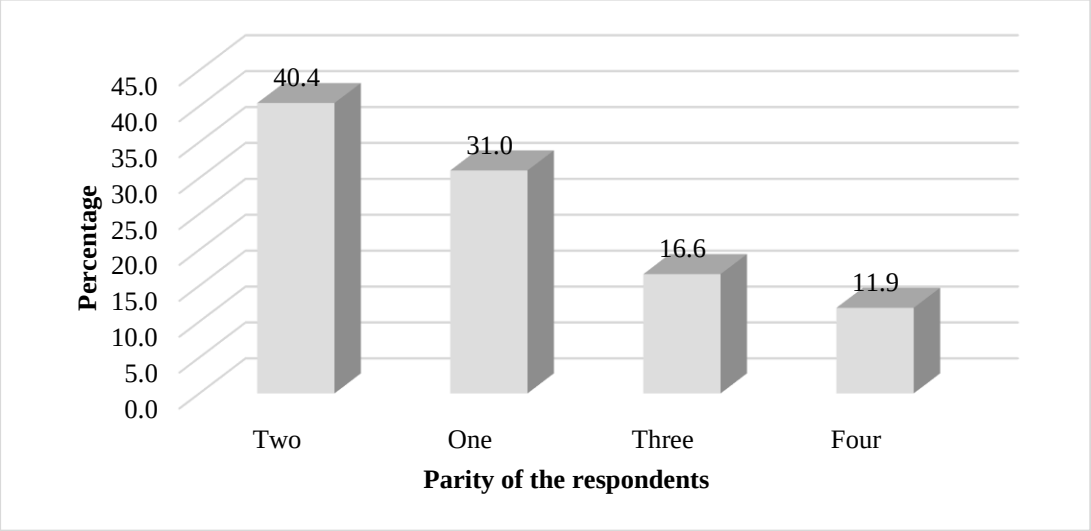


Figure 3: Parity of the respondents

4.7 Child Sex

The results indicated that 193(52%) were male whereas 175(48%) were female.

4.8 Baby's Weight

The study showed that the baby's mean weight in kilograms as recorded in maternal child booklet was 5.103(±32.8630) with minimum weight of 0.5 grams and maximum of 4.7 kilograms.

4.9 Place of Delivery

The study illustrates that majority 346 (96%) mothers gave birth in health facilities while the minority 22(4%) delivered at home.

4.10 Religion

The pie-chart below indicates that a higher number 251(68%) were protestants, followed by catholic 109(30%) while the lowest 8(2%) were Muslim.

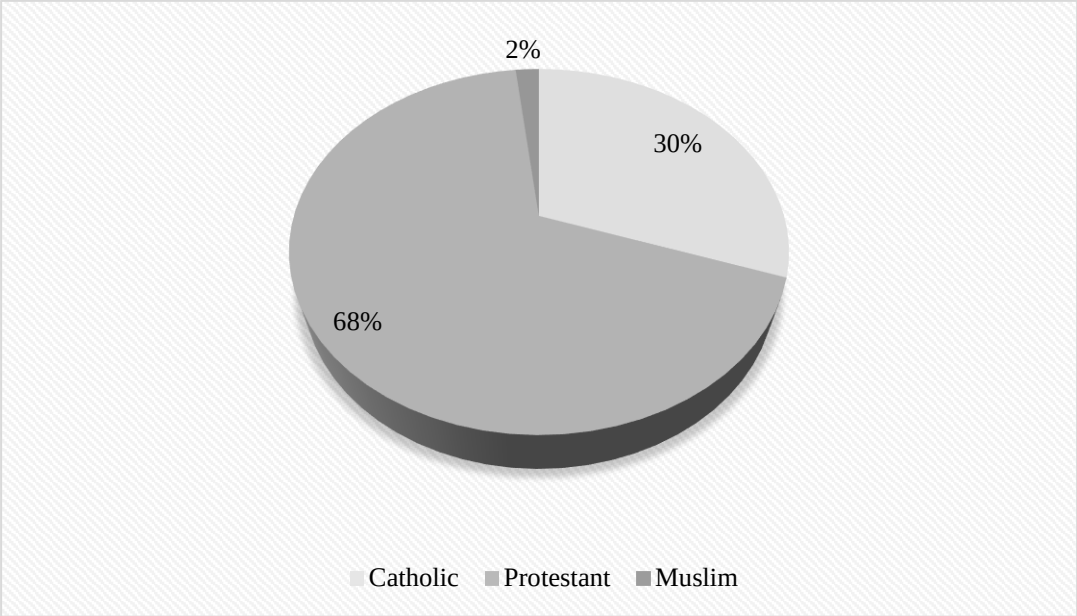


Figure 4:Religion

4.11 Mode of Delivery

From the results normal delivery had the highest 295(80%) among modes of delivery, followed by caesarean section 67(18%) while assisted delivery was lowest 6(2%).

4.12 Knowledge on Exclusive Breastfeeding

Introduction:

Objective number 1 was to examine on knowledge of exclusive breastfeeding and the findings are indicated below:

4.13 Heard of EBF

Majority 337 (92.6%) mothers attending child welfare clinic indicated that they have heard of exclusive breast feeding while the lowest 29 (7.4%) did not.

4.14 Meaning of EBF

Majority 346(93%) of the respondents reported it means giving baby breast milk only from birth, followed by giving baby breast milk and water only from birth 21(5.9%) while the least 3(0.7%) indicated giving baby breast milk and other foods from birth. This is demonstrated in the bar graph below.

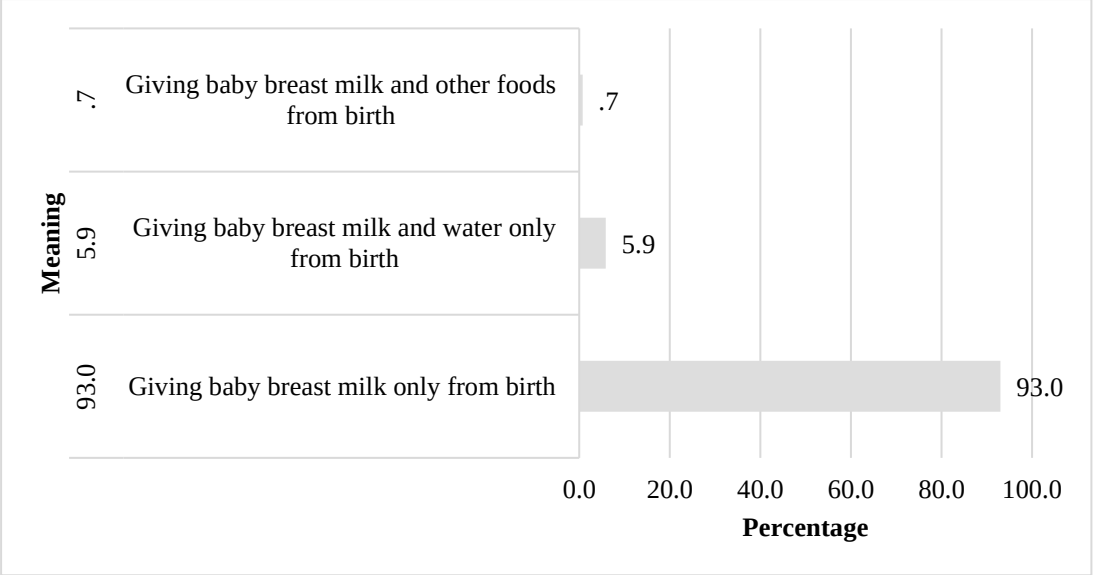


Figure 5: EBF meaning

4.15 Source of Information on EBF

The graph below depicts that most 305 (83.1%) respondents sought information from health care workers, followed by relatives 27(7.3%), friends 16(4.2%) while the lowest 10 (2.7%) was recorded through media and magazines.

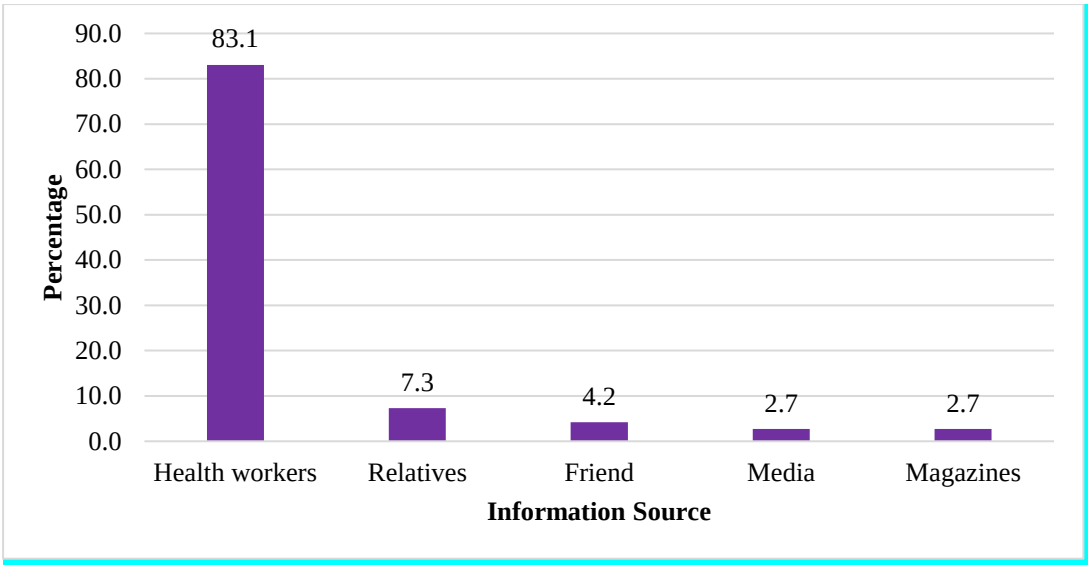


Figure 6:Source of information

4.16 Information given on EBF

The study further revealed that majority 278(68.8%) mothers attending child welfare clinic were taught through health talks on exclusive breast feeding whereas the least 9(1.1%) were taught on expression of breast milk as represented in the graph :-

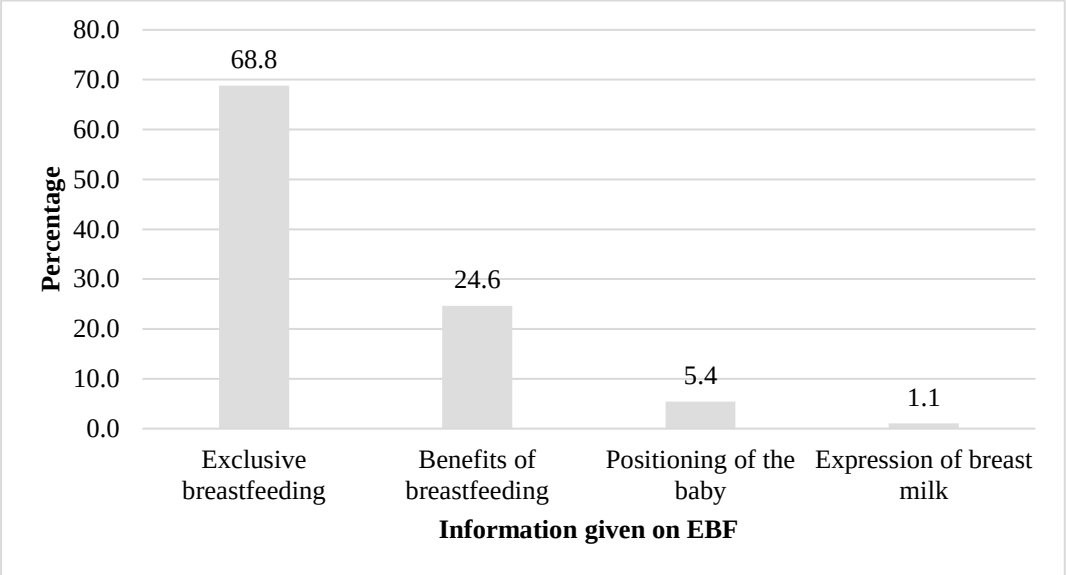


Figure 7: Information given on EBF

4.17 Importance of colostrum

Majority 210(58.7%) of the respondents reported that colostrum helps in protection against diseases, don't know 90 (25.4%) nutritious value 48 (13%) and those who indicated others were represented by 10(2.9%). This is shown in the graph below: -

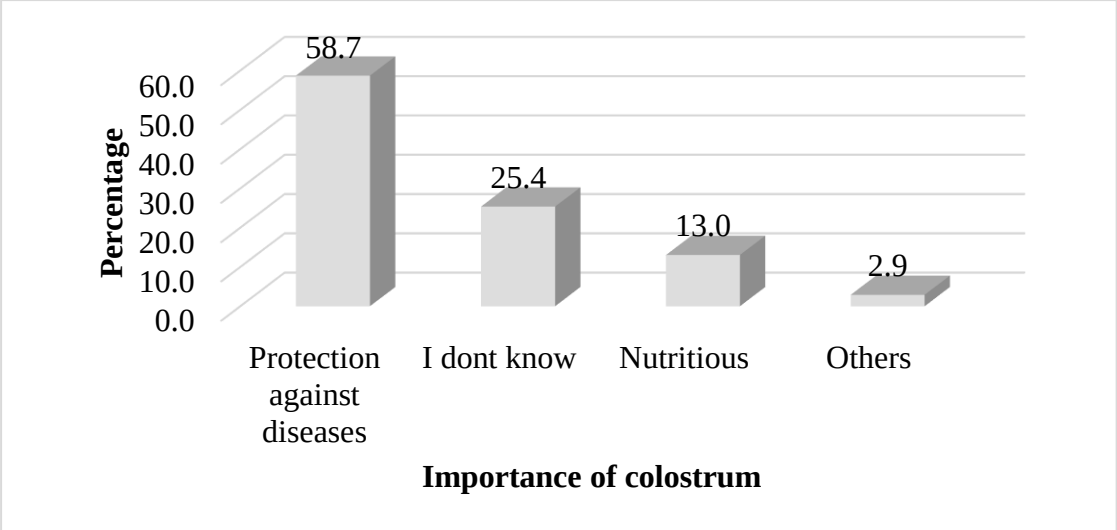


Figure 8: Importance of colostrum

4.18 Period Breast Milk is Sufficient

The findings indicated that 208(54.2%) of the respondents reported that breast milk was sufficient for a period of five (5) months while a least number indicated one (1) month.

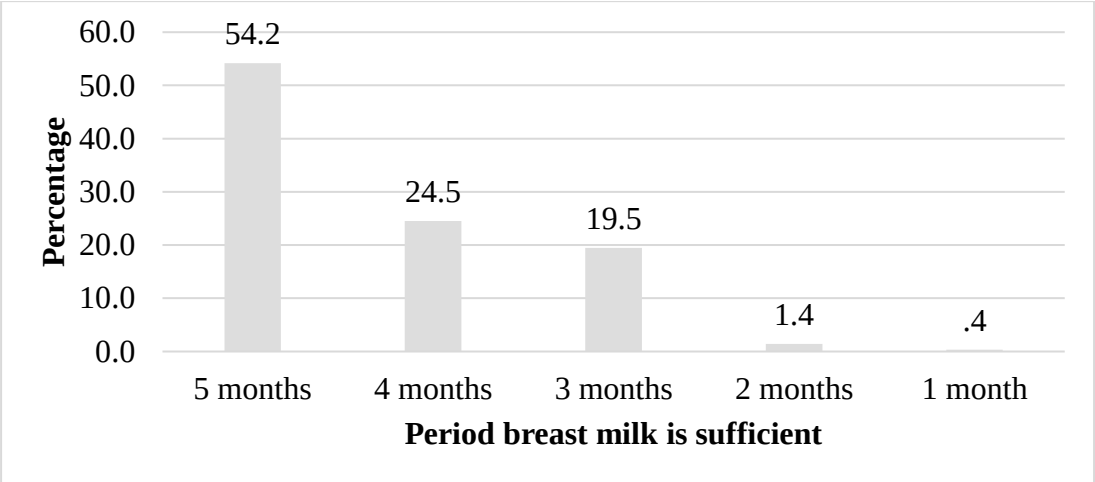


Figure 9: Period breast milk is sufficient

The study revealed that breast milk is sufficient for at least 5 months hence a relationship between age of the respondents and period breast milk is sufficient was significant, that is, $\chi^2 = 177.735$, df = 96, p<0.000.

Age and period breast milk is sufficient for EBF

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	177.735[a]	96	.000
Likelihood Ratio	133.980	96	.006
Linear-by-Linear Association	.052	1	.820
N of Valid Cases	272		

a. 109 cells (87.2%) have expected count less than 5. The minimum expected count is .00.

4.19 Number of Times Per Day Baby is Breastfed

The study revealed that 276 (73%) of the respondents reported that the baby is breastfed whenever on demand, followed by 5-6 times 98(26%) while 4(1%) mentioned3-4 times. This is shown by a pie chart:

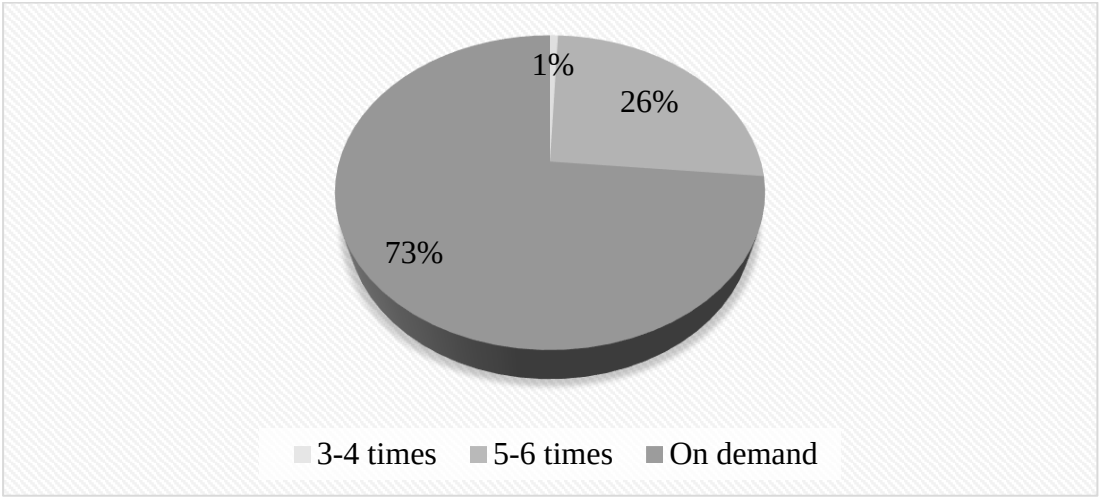


Figure 10: Number of times per day baby is breastfed

The results also showed an association between age and number of times per day baby is breastfed $\chi^2 = 98.625$, df = 72, p<0.020.

Chi square association between the age of the mother and number of times per day baby is breastfed

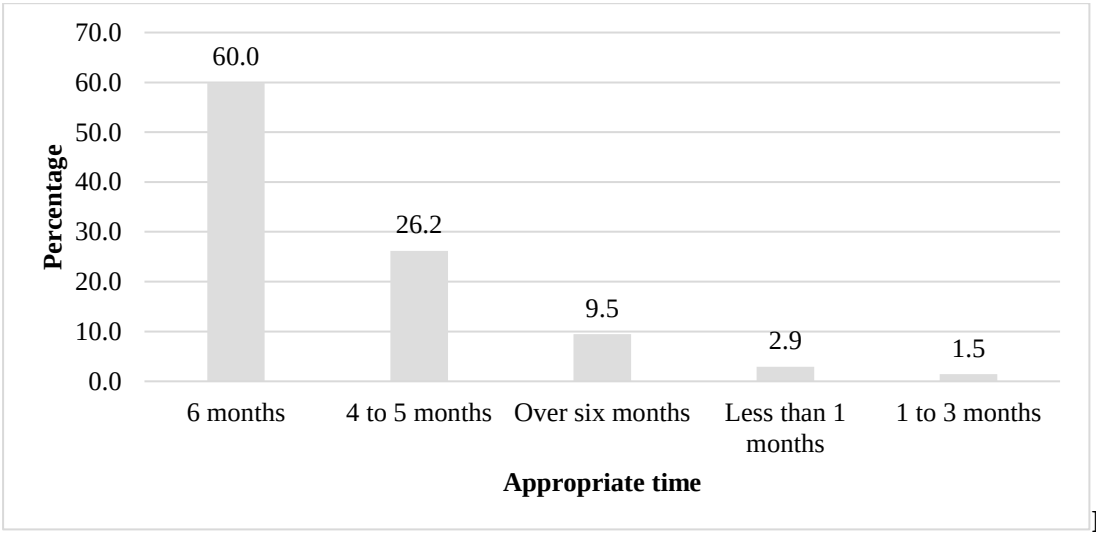
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	98.625[a]	72	.020
Likelihood Ratio	71.969	72	.479
Linear-by-Linear Association	.002	1	.968
N of Valid Cases	271		

a. 81 cells (81.0%) have expected count less than 5. The minimum expected count is .01.

4.20 Appropriate Time for Complimentary Food

The study revealed that 216 (60%) of the respondents indicated that appropriate time to start giving complimentary food is 6 months while the lowest 5(1.5%) mentioned 1 to 3 months. This is depicted in the bar graph;



F

Figure 11: Appropriate time for complimentary food

The study indicated an association between age and appropriate time for complimentary food, that is, $\chi 2 = 128.718, df = 96, p<0.015$.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	128.718[a]	96	.015
Likelihood Ratio	113.038	96	.113
Linear-by-Linear Association	3.563	1	.059
N of Valid Cases	270		

a. 108 cells (86.4%) have expected count less than 5. The minimum expected count is .01.

4.21 Practice of Exclusive Breast Feeding

Introduction:

Objective number 2 was to examine the practice of exclusive breastfeeding and the findings are indicated as follows;

4.22 Practice of EBF.

The results showed that 356 (97%) of the respondents practiced exclusive breast feeding while the least 12 (3%) did not. Among the respondents who practiced EBF majority were aged between 20 to 38 years hence an association between age of the mother and practice of EBF revealed, $\chi^2 = 370.144$, df = 48, $p<0.000$.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	93.848[a]	48	.000
Likelihood Ratio	55.458	48	.214
Linear-by-Linear Association	.738	1	.390
N of Valid Cases	357		

a. 56 cells (74.7%) have expected count less than 5. The minimum expected count is .01.

4.23 Time that the Child was Placed on EBF

The bar graph below shows that 141(38.3%) commenced the infant on breastfeeding immediately after delivery while 43(11.9%) indicated after some days.

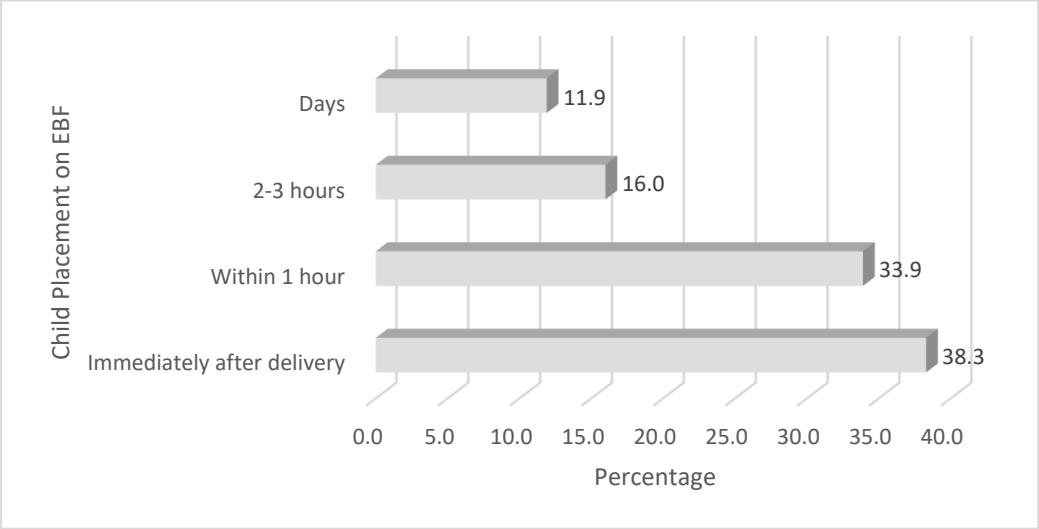


Figure 12: Time placed child on EBF

4.24 Reasons for delay for more than one hour

Generally, 180 mothers responded to this question. Among the reasons given for more than one hour, a higher number 84(46.7%) of the respondents reported delayed secretion, followed by caesarian section 44(24.4%), baby was sick 36(20%) and mother being sick 16(8.9%) as shown below:-

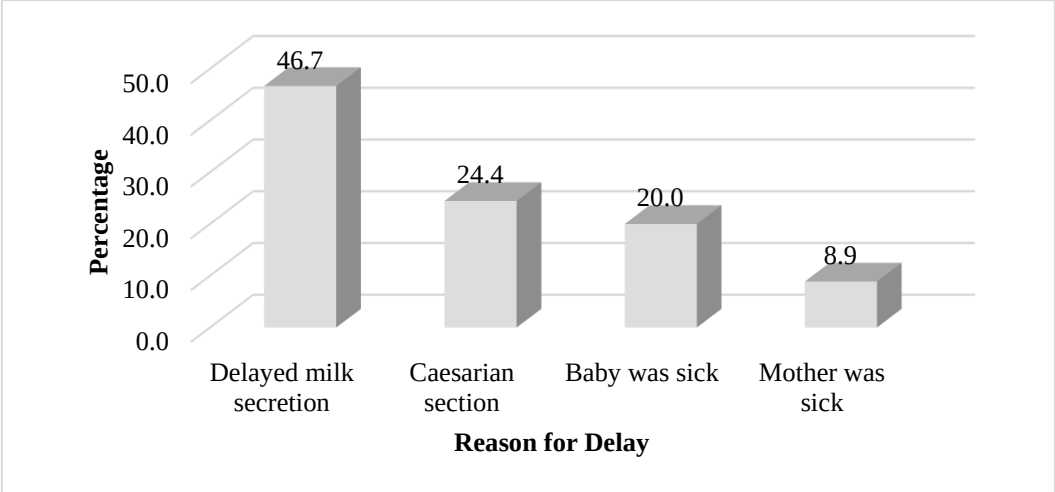


Figure 13: Reasons for delay for more than one hour

4.25 Giving Baby anything to feed after delivery besides breast milk

Majority 320(87%) of the respondents didn't give baby anything to feed after delivery besides breast milk while a lower number 49(13%) gave. This is shown in the pie-chart below:-

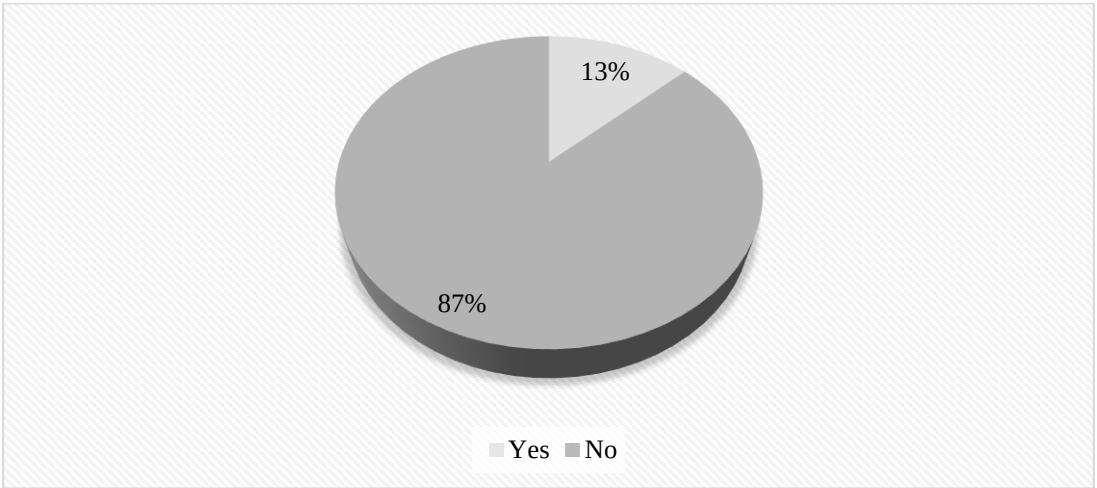


Figure 14: Giving baby anything to feed after delivery besides breast milk

4.26 Supplements Given

Among the respondents who gave their infants other feeds apart from breast milk immediately after delivery 84(52.5%) indicated that they gave Nan, followed by milk 60(37.5%), thin porridge 12(7.5%) while the rest 4(2.5%) gave water as depicted by the bar graph;

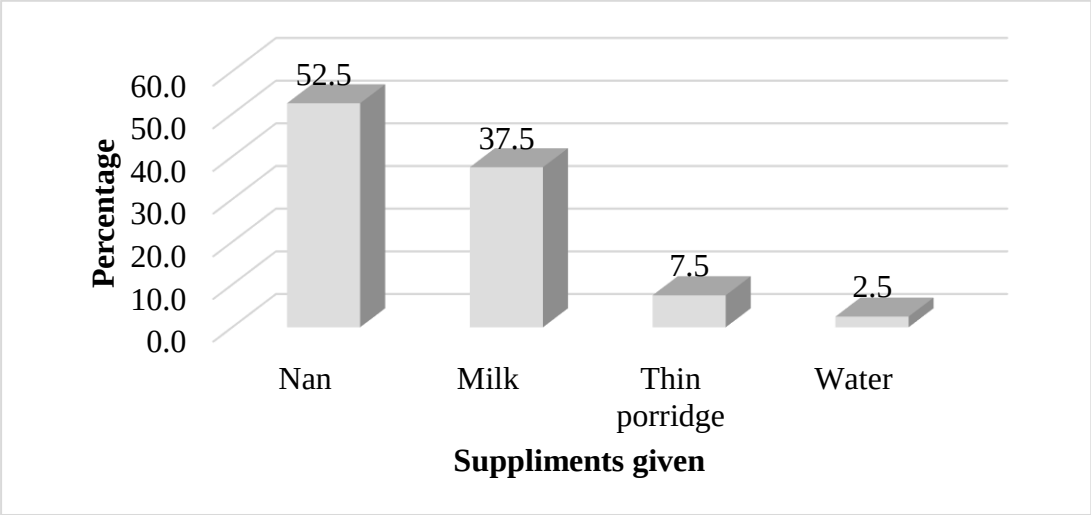


Figure 15: Supplements given

4.27 Reasons for Giving Other Foods

The reasons behind giving other food were 56(45%) lack of breast milk, inability of baby to latch 36(29%) and others like baby crying 32(26%) as shown;

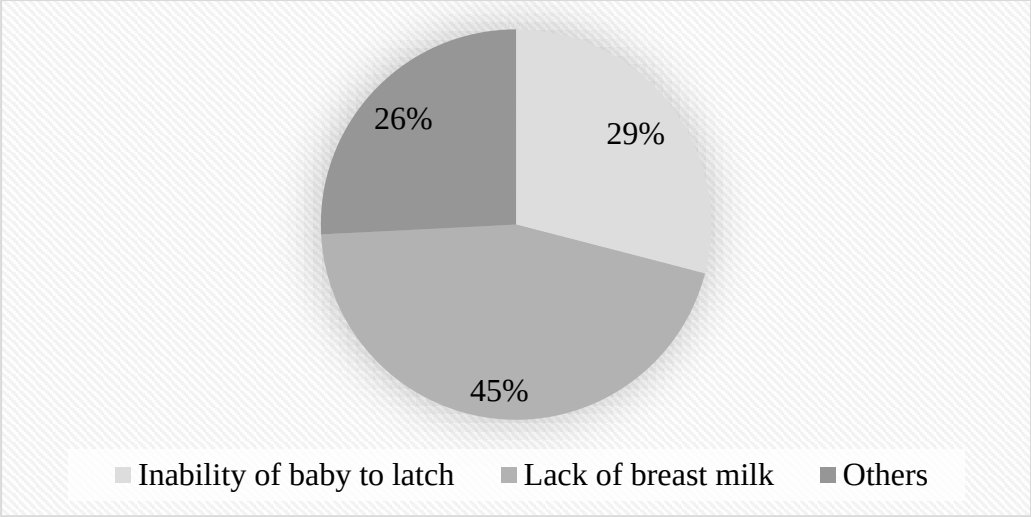


Figure 16: Reasons for giving other foods

The relationship between age of the respondent and reasons for giving other food was significant (χ^2 =119.116, df = 72, P=0.00).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	158.636[a]	72	.000
Likelihood Ratio	108.267	72	.004
Linear-by-Linear Association	7.100	1	.008
N of Valid Cases	355		

a. 72 cells (72.0%) have expected count less than 5. The minimum expected count is .01.

4.28 Having Support for EBF

The findings showed that most 260(71%) of the respondents received support for exclusive breast feeding while 108(29%) did not as illustrated in the pie-chart below:-

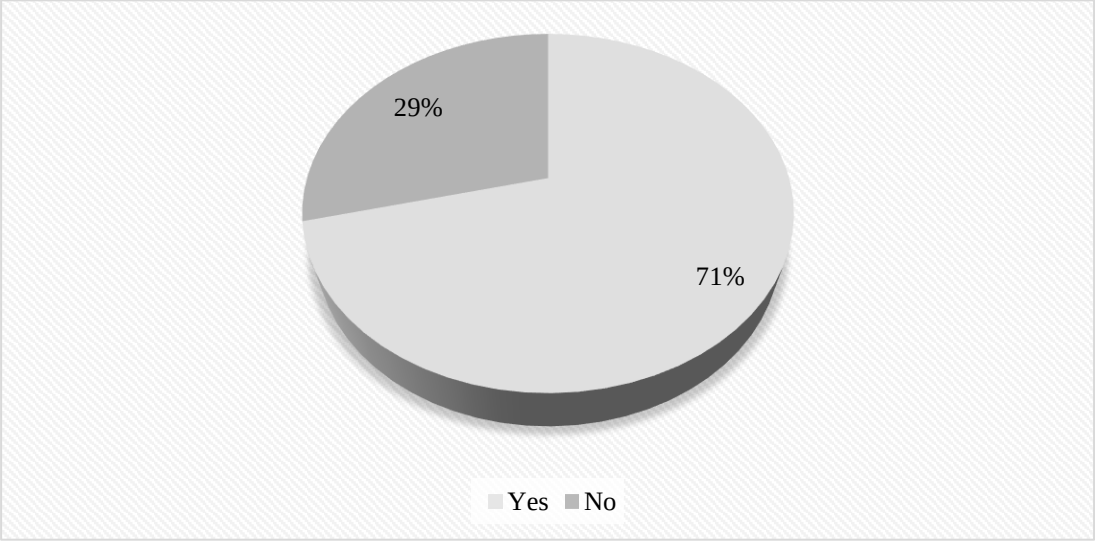


Figure 17: Having support for EBF

4.29 Maternal support distribution

The bar graph below indicates that majority 289(66.8%) of the respondents received support from their husbands, followed by mother in-law 25(16.8%) while 6(0.5%) received support from friends.

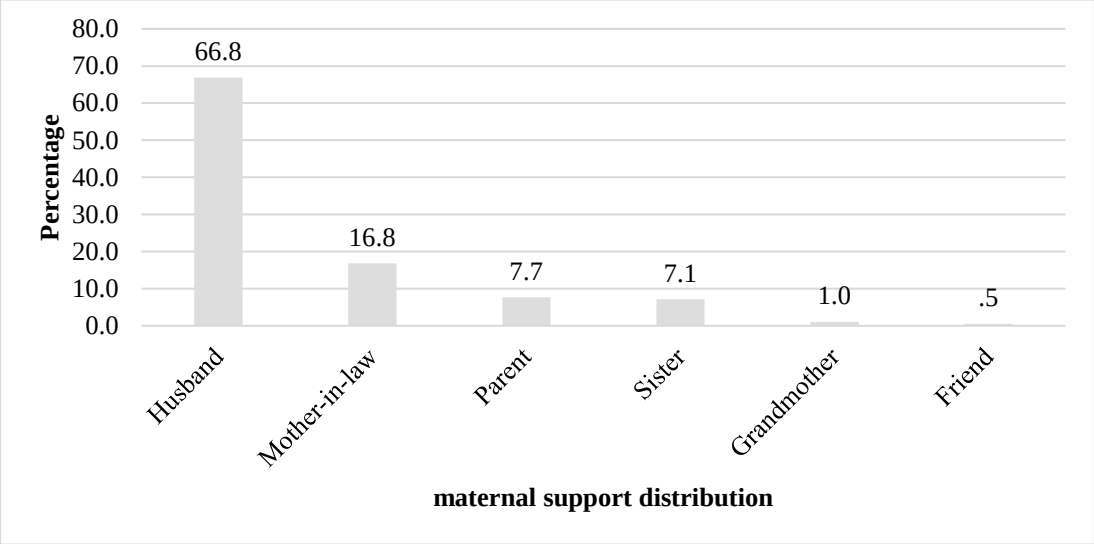


Figure 18: Maternal support distribution

4.30 Being given Maternity Leave

The study revealed that 352 (96%) of the respondents were given maternity leave while 16 (4%) were not assigned the maternity leave after delivery.

4.31 Number of maternity leave per months given

Among those given maternity leave most 336(92.4%) respondents were given three months while a lower 9(1.5%) was recorded among those given one month. This is shown in the graph below:

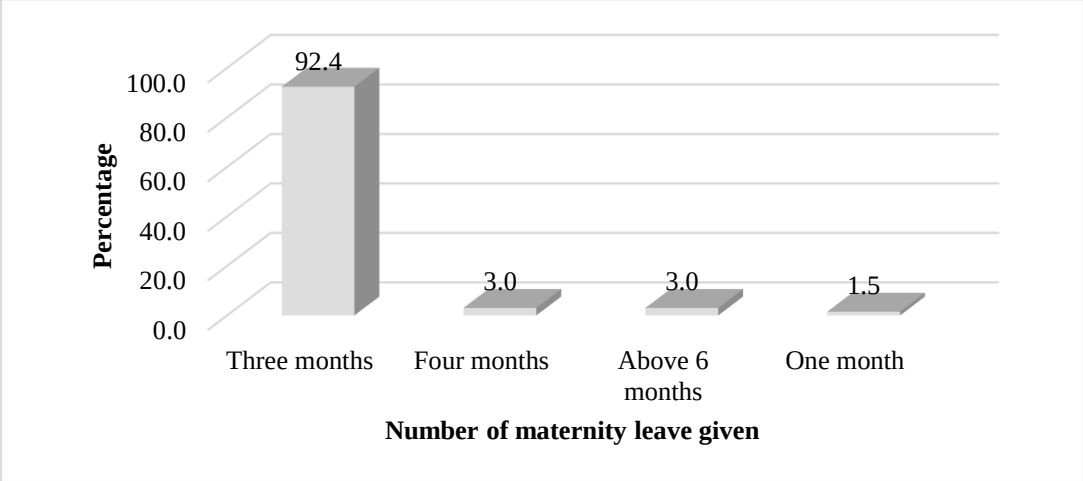


Figure 19: Length of maternity leave given

4.32 How Employers Supported EBF

Most 320(86.8%) of the respondents supported exclusive breast feeding by allowing flexible working hours while 14(3.8%) indicated that employers supported them to practice EBF by providing private and conducive place to express breast milk as depicted in the graph:

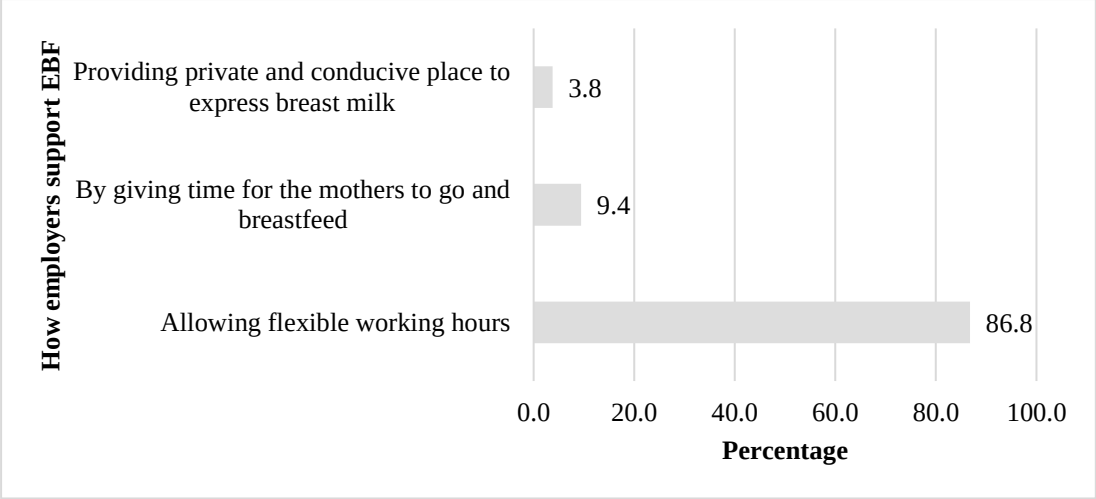


Figure 20: How employers supported EBF

4.33 Counselling about EBF

Close to hundred 357(97%) of the respondents indicated that they were counseled about exclusive breast feeding while 10(3%) of the respondents indicated they were not counseled.

4.34 Place Counseled

The pie-chart below illustrates that 290 (79%) of respondents indicated that they received counseling at the antenatal clinic, postnatal (20%) whereas (1%) indicated during labor.

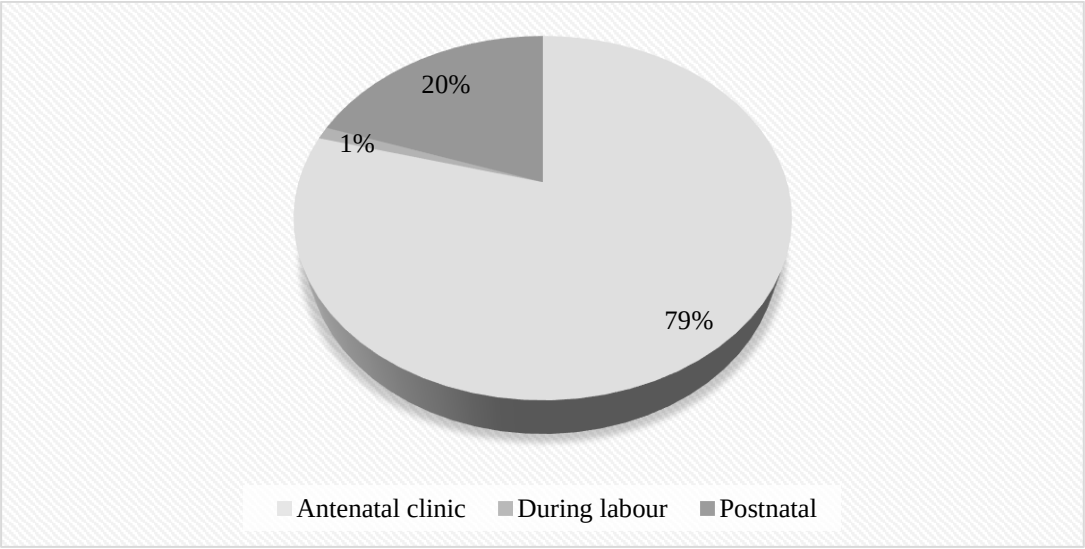


Figure 21: Place counseled

4.35 Barriers of Exclusive Breastfeeding

Introduction:

Objective number 3 was to examine barriers of exclusive breastfeeding and the findings are indicated as follows:

4.36 If Experienced on EBF problems

The results showed that 293(80%) of the respondents experienced EBF problems while 75(20%) did not.

4.37 Problems in Breastfeeding.

Among the problems experienced were 259(69%) sore/cracked nipples, followed by breast aches 97(26%), while 12(5%) mentioned mastitis. Univariate statistics depicts a strong relationship between problems in breastfeeding and practice of exclusive breast feeding (χ^2 =58.725, df = 51, P=0.213).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	58.725[a]	51	.213
Likelihood Ratio	45.816	51	.679
Linear-by-Linear Association	.097	1	.755
N of Valid Cases	72		

a. 67 cells (93.1%) have expected count less than 5. The minimum expected count is .01.

4.38 Management of the Problem by the Mothers

Majority 221(79%) of the respondents managed the problem through expressing milk while a number of respondents 130(21%) indicated that they went to the hospital for advice as shown in the pie-chart below:

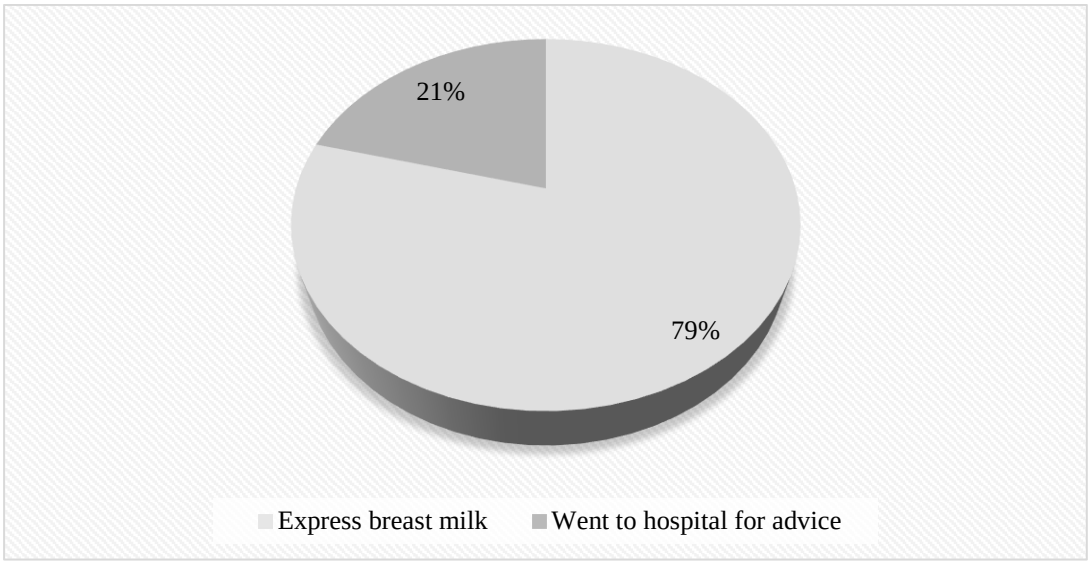


Figure 22: Management of the Problem

4.39 Reasons for Mothers not Breastfeeding

The graph below illustrates that 236 (64%) of the respondents cited insufficient breast milk and 30.2% indicated work related demands, while the least 7(1.5%) mentioned high preference of well-shaped breast by men.

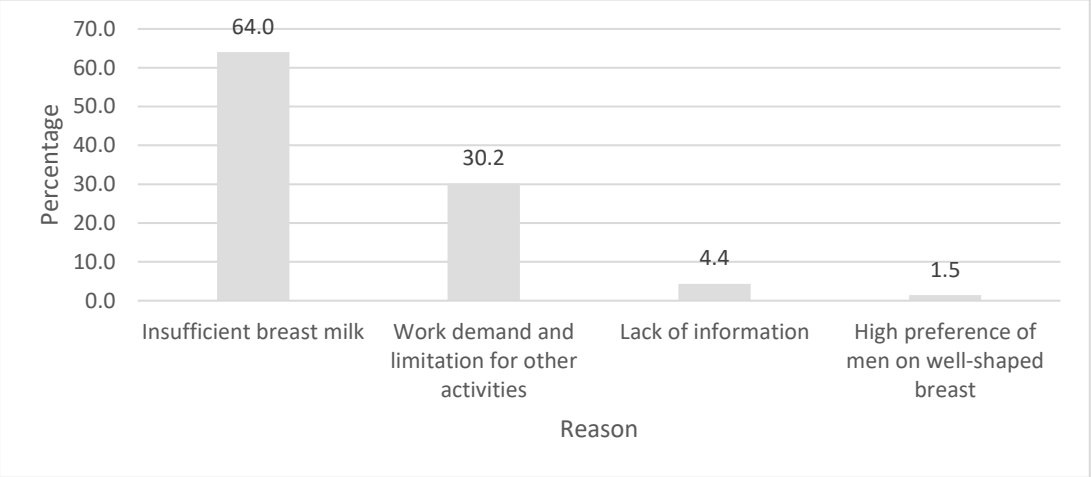


Figure 23: Reasons for Mothers not Breastfeeding

4.40 Reasons for Early Cessation

The study further indicated that 268(73%) of the mothers reported that early cessation of breast milk was due to lower maternal education while 100(27%) reported employment/job as shown in the pie-chart below:

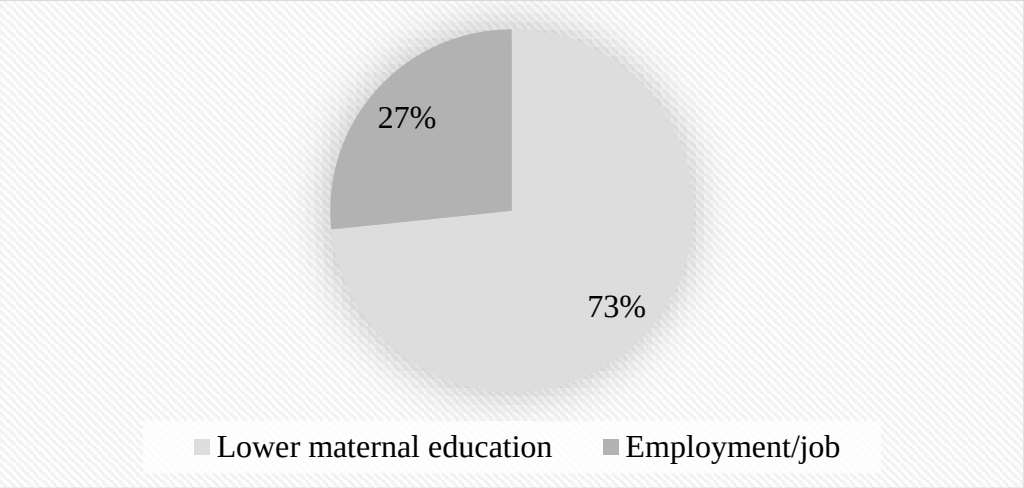


Figure 24: Reasons for Early Cessation

CHAPTER FIVE

DISCUSSIONS

5.0 Introduction

The discussion is based on previous studies on exclusive breast feeding compared to study findings. This chapter has been organized as per the study objectives.

5.1 Socio- Demographic Characteristics

Child factors such as age and sex of a child have been implicated to predict the practice of exclusive breastfeeding, however, from the findings of this study sex of the infant was not a determinant factor of EBF, contrast to (Salim & Stones, 2020) study that indicated female infants are likely to be EBF than the boys. Further, result in the study showed an average age of two and half month's infants were exclusively breastfed which is similar to a Nigeria study where infants aged less than 2 months are more likely to be exclusively breastfed (Ogbo *et al*, 2015).

The maternal age was associated with the practice of EBF in this study where majority of the mothers between the age of 20-38 years were associated with the practice of EBF. Similar study that has identify similar association between age and EBF is Thailand studies that showed that mothers who were above twenty five years were more likely to achieve EBF than their younger ones this could be related to a cognitive theory that a responsible behavior is correlated with age (Thepha*et al*, 2017). Inversely in Zimbabwe study, mothers who were less than 25 years of age was associated with less likely hood of practicing exclusive breastfeeding in Gwanda District than being mothers above 25 years (Mudagowa *et al* 2019).

Maternal education in the study was not associated with the practice of EBF which is similar to a study in Calabar where there was no association between the level of education and the practice of EBF (Ojong et al, 2015). Inversely to other studies of the Sagamu mothers South west of Nigeria (Sholeye et al, 2015) and the Indonesian mothers (Li *et al*, 2021) which established that higher level of education was associated with EBF. This could be due the majority had attended health facilities during the antenatal and post-natal which provided adequate counselling concerning the practice of EBF.

While maternal occupation has been identified by different studies to be either promoting the practice or hinder EBF in this study there was no association between the maternal occupation and the practice of EBF, similar to the study of Sagamu mothers Nigeria (Sholeye *et al* 2015) where maternal occupation was not determining factor of EBF.

5.2 Knowledge of Mothers on Exclusive Breastfeeding

From the study mothers were knowledgeable with the concept of EBF as majority (96%) indicated that EBF means giving baby breast milk only from birth and it protects the baby against disease. This agreed with the study by (Victora, *et al*, 2016) which described breast milk as the natural first food for babies and it provides all the energy and nutrients that the infant needs for the first months of life, and it continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life. This further agreed with a studies in Nigeria where the majority (66.3%) of the participants were aware of the benefits of exclusive breast feeding and all the respondents were able to state one or two benefits of exclusive breastfeeding (Akpor *et al,* 2016), similarly 93.2 % of breast feeding

mothers were aware of the benefits of breast milk and 95.9% practice EBF (Sholeye *et al* 2015) . Contrary to a study in Ghana where the knowledge on EBF and practices were low among the studied community (Nukpezah *et al*, 2018).

Majority of the respondents (58.7%) indicated that importance of yellow milk to the baby is to help in protection against diseases, this was similar to a study done by(Masson, *et al*,2013), that indicated that colostrum is the baby's first immunization as it contains high levels of antibodies, vitamin A and other protective factors. Breastfed children exhibit greater resistance to infectious diseases and stronger immune system and therefore experience lower rates of chronic diseases.

The results from this study indicated that, majority of the mothers (83.1%) sought information from health workers resulting to higher number practicing exclusive breastfeeding, this was similar to study by(Kimani *et al.*, 2015), who indicated that main sources of breastfeeding information are the health facility. In addition, similar to what had been reported in a study conducted in Kasarani informal settlement in Molo by (Mututho, 2012) where 74.2% received breastfeeding information from health facilities. On the contrary, (Mbwana *et al*., 2013), indicated that mothers exposed to mass media have been reported to have increased awareness and use of health intervention strategies. The use of radio and television should be encouraged among mothers as an additional source of health information, because of their wide coverage but the information that they convey should be consistent with the WHO recommendations on EBF. Similar to findings in Ghana where most people choose the electronic media 209 (53.2%) as compared to health professionals 135 (34.4%) as their major source of information (Nukpezah, *et al* 2018). However, from our study 10 (2.7%) of mothers received information from media.

The study further indicated that mothers were given information on exclusive breast feeding, followed by benefits of breastfeeding which agreed with the study by (Mututho, 2012), mothers from Kasarani slums in Molo, reported that they were educated on how to introduce food when the child is six months old; clean the breasts before breastfeeding the child; breastfeed for at least fifteen minutes on each breast and that when a child is born should be put to the breast after 30 minutes.

5.3 Practice of Exclusive Breastfeeding

From the study, majority of the mothers (79%) were counseled at the antenatal clinic on EBF and majority of them (97%) practice EBF. This is similar to a study in Nigeria which established that mothers who visited the antenatal clinics for counseling services were positively associated with EBF (Ogbo*et al*, 2015).

The study showed that majority of the mothers (38.3 %) initiated breast feeding immediately after delivery while (11.9%) indicated after some days also, regarding the reasons for delay of initiation (46.7%) indicated delayed breast milk secretion while (8.9%) indicated that the mother was sick to initiate breast feeding. This is similar to a study in Nigeria where 75.0% of participants initiated breastfeeding immediately and within few hours after birth while only 6.5% never breastfeed their babies at all (Akpor*et al*, 2016).

The study showed that (66.8%) received support from their husbands to practice of EBF, followed by mother in –law (16.8%) while (0.5%) indicated friends. Similarly mothers who received breastfeeding counseling during pregnancy and were being supported by the husband were also cited as motivational factors to practice EBF (Tewabe, 2017). Partner supporting EBF was associated with adequate knowledge of EBF (Seghor, 2018).

Cultural and social beliefs was not a determining factor in the practice of exclusive breastfeeding according to the mothers in the study , which was different from other studies.in Tanzania, (Mgongo *et al*, 2019) identified cultural beliefs that are in favor of EBF and that are practice and does not promote EBF. Among the mothers of Mbale district of Uganda it is a taboo to express breast milk as it is belief to cause the death of the children (Rujumba et al, 2020). In Kenya a study of two slums in Nairobi by (Wanjohi *et al.,* 2017) cultural and social beliefs were the influencing factors of exclusive breastfeeding, similar findings were identified in Narok where cultural responsibilities of the mothers of herding animals and fetching water led to low rate of EBF in the county(Mapesa *et al.,* 2020)while in Kilifi introduction of traditional fluids for medicinal purpose was noted (Tarlbet *et al.,* 2020).The differences exist due to the factor that majority of the mothers in this study were knowledgeable about the concept and benefits of EBF.

5.4 Barriers of Exclusive Breastfeeding

The findings of this study revealed (69%) of mothers had sore/cracked nipples, followed by breast aches (26%), while (5%) reported mastitis as breast complications which were likely making them to discontinue breastfeeding. This was similar to findings from a study (Diane & Fraser, 2017) that indicated exclusive breastfeeding barriers included breast pain due to insufficient milk removal, mastitis, breast abscess, blocked ducts and feeding difficulties which in turn resulted to discontinuation of EBF practices. Other findings were reported in Italy, mothers reported the reasons why the stopped practicing EBF as follows; maternal perception of insufficient breast milk (65.5%), difficulty and pain during breastfeeding (19.5%), voluntary termination because it was stressful (17.6%), and an inadequate increase in the weight of the child

(5.7%), inversely to a study in Nigeria (Sholeye *et al*, 2015) where despite a quarter of the mothers experiencing painful breast this did not become a barrier to EBF.

Majority of the mothers who experienced breast problems expressed the breast milk while others went to hospital for advice this agreed with study of Mozambique where mothers sought the help of community health workers when they experienced breast complications and others went to the hospital (Kavle, *et al* 2019) this could be due to the fact they had been counselled during the antenatal clinic and during post-delivery. Contrary to findings in Kilifi where most mothers had home deliveries and were advice by relatives to persevere when they experienced breast complications (Tarlbet et al., 2020).

From the study (64%) of the respondents cited insufficient breast milk as a barrier to EBF. Similarly a study in South Africa by (Jama *et al*, 2017) established that the constant barrier to exclusive breastfeeding was the perception of lack of sufficient breast milk to sustain the baby. In Italy perception of milk insufficiency was reported by 65.5% of the mothers. Similar findings were identified in Tanzania where the respondents reported breast milk insufficiency, baby being thirsty and need to introduce herbal medicine (Maonga et al 2015). Other findings hinder mothers from practicing exclusively breastfeeding were also noted in a study in two slums in Nairobi by (Wanjohi, *et al*, 2017). These include the perception that some mothers do not have adequate breast milk and that breastfeeding exclusively or for six months causes difficulties in initiating complementary foods. Perception of insufficient breast milk production can be avoided by teaching the mothers the correct way of feeding their babies.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

Majority of the mothers attending child welfare clinic were knowledgeable about the meaning and importance of EBF. Healthcare workers were the highest providers of information to mothers on practice of EBF. Younger mothers between the ages of 20-38 years were likely to adhere to the practice of EBF. Mothers reported that they receive support from their husbands, health care workers and employers for those who were in formal employment to practice EBF. Further, majority of the mothers mentioned that employers supported them to practice EBF by providing flexible working hours. Breast milk insufficiency was the main reason why mothers gave other feeds to the baby, while breast disorders was a major hindrance to the practice of EBF.

6.2 Recommendation

Based on the study findings, the following recommendations were made:-

1. **At facility level**

   To the health care providers there is need to create awareness on timing of complimentary feeds according to the Baby friendly child birth initiatives.

2. At the policy level

To the policy makers there is need to address challenges faced by mothers in expressing and storage of breast milk and to address hindrances of EBF such as insufficient breast milk, latching and timely initiation of breast feeding regardless of mode of delivery. There is also need for practical demonstrations by the

midwives to mothers on latching and positioning of the baby during breast feeding in order to prevent complications of the breast.

To the ministry of health and the administration of MTRH, this study also recommends the need to strengthen partner and family support, peer to peer support as well as support groups in the community during breastfeeding period in order to assist in follow up of mothers and linkage of mothers experiencing difficulties and problems of EBF.

3. Further research

Similar studies should be done at the community level to establish factors associated with exclusive breast feeding at the community level in order to influence policies at the community.

REFERENCES

Abekah-Nkrumah, G., Antwi, M. Y., Nkrumah, J., & Gbagbo, F. Y. (2020). Examining working mothers' experience of exclusive breastfeeding in Ghana. *International Breastfeeding Journal*, *15*(1). https://doi.org/10.1186/s13006-020-00300-0

Adugna, B., Tadele, H., Reta, F., &Berhan, Y. (2017). Determinants Of Exclusive Breastfeeding In Infants Less Than Six Months Of Age In Hawassa, An Urban Setting, Ethiopia. International Breastfeeding Journal, 12(1).doi: 10.1186/s13006-017- 0137- 6.

Agunbiade, O.,and Ogunleye, O. (2012). Constraints To Exclusive Breastfeeding Practice Among Breastfeeding Mothers In Southwest Nigeria: implications for scaling up. *International Breastfeeding Journal*, *7*(1). doi: 10.1186/1746-4358-7-5.

Akpor, O. A., Ojo, E. F., &Ezeh, C. N. (2016).Knowledge and Practice of Exclusive Breastfeeding amongst Mothers Attending Infant Welfare Clinic, Ekiti State University Teaching Hospital, Ado-Ekiti. *Journal of Advances in Medicine and Medical Research*, 1-10.

Alebel, A., Tesma, C., Temesgen, B., Ferede, A., &Kibret, G. (2018). Exclusive breastfeeding practice in Ethiopia and its association with antenatal care and institutional delivery: a systematic review and meta-analysis. *International Breastfeeding Journal*, *13*(1). doi: 10.1186/s13006-018-0173-x.

Appleton, J., Laws, R., Russell, C. G., Fowler, C., Campbell, K. J., & Denney-Wilson, E. (2018). Infant formula feeding practices and the role of advice and support: an exploratory qualitative study. *BMC Pediatrics*, *18*(1). https://doi.org/10.1186/s12887-017-0977-7

Arage, G., &Gedamu, H. (2016). Exclusive Breastfeeding Practice and Its Associated Factors among Mothers of Infants Less Than Six Months of Age in Debre Tabor Town, Northwest Ethiopia: A Cross-Sectional Study. *Advances In Public Health*, *2016*, 1-7. doi: 10.1155/2016/3426249.

Asfaw, M. M., Argaw, M. D., & Kefene, Z. K. (2015). Factors associated with exclusive breastfeeding practices in Debre Berhan District, Central Ethiopia: a cross sectional community based study. *International Breastfeeding Journal*, *10*(1). https://doi.org/10.1186/s13006-015-0049-2

Ayisi, R. K. , Thuita, F. , Njeru, E. Wakoli, A. B (2014). Factors Associated With Exclusive Breastfeeding Among Infants Aged 0-6 Months In A Peri-Urban Low Income Settlement Of Kangemi, Nairobi,*Global institute for Research and Education* UON depository.

Bbaale E.(2014), Determinants of Early Initiation, Exclusiveness, and Duration of Breastfeeding in Uganda *J HEALTH POPUL NUTR 2014 Jun;*32(2):249-260 ISSN 1606-0997 | $ 5.00+0.20.Thesis dissertation Makerere University.

Bellù, R., &Condò, M. (2017). Breastfeeding promotion: evidence and problems. *La Pediatria Medica E Chirurgica*, *39*(2). https://doi.org/10.4081/pmc.2017.156

Boor, F. K. (2019). Opportunities and Barriers to Optimal Early Breastfeeding Among Mothers Delivering at a Teaching and Referral Hospital in Uasin-Gishu County, Kenya. JournalofGynecology and WomensHealth, 13(5). https://doi.org/10.19080/jgwh.2019.13.555875

Cascone, D., Tomassoni, D., Napolitano, F., & Di Giuseppe, G. (2019). Evaluation of Knowledge, Attitudes, and Practices about Exclusive Breastfeeding among Women in Italy. *International Journal of Environmental Research and Public Health*, *16*(12), 2118. https://doi.org/10.3390/ijerph16122118

Cronbach, L. J., &Shavelson, R. J. (2004). My Current Thoughts On Coefficient Alpha and Successor Procedures. *Educational and psychological measurement*, *64*(3), 391- 418.

Fraser, D. M., & Cooper, M. A. (2017). AZ Midwifery E-Book.Elsevier Health Sciences.

Gewa, C. A., & Chepkemboi, J. (2016). Maternal knowledge, outcome expectancies and normative beliefs as determinants of cessation of exclusive breastfeeding: a cross-sectional study in rural Kenya. *BMC Public Health*, *16*(1). https://doi.org/10.1186/s12889-016-2907-2

Glanz, K., & Bishop, D. (2010). The Role of Behavioral Science Theory in Development and Implementation of Public Health Interventions. *Annual Review Of Public Health*, *31*(1), 399-418. doi: 10.1146/annurev.publhealth.012809.103604.

Gupta, A., Holla, R., Dadhich, J., Suri, S., Trejos, M., &Chanetsa, J. (2012).The Status Of Policy And Programmes On Infant And Young Child Feeding In 40 Countries. *HealthPolicy And Planning*, *28*(3), 279-298.doi: 10.1093/heapol/czs061.

Hagos, D., & Tadesse, A. W. (2020). Prevalence and factors associated with exclusive breastfeeding among rural mothers of infants less than six months of age in Southern Nations, Nationalities, Peoples (SNNP) and Tigray regions, Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, *15*(1). https://doi.org/10.1186/s13006-020-00267-y

Hernández-Cordero, S., Lozada-Tequeanes, A., Fernández-Gaxiola, A., Shamah-Levy, T., Sachse, M., Veliz, P., &Cosío-Barroso, I. (2020). Barriers and facilitators to breastfeeding during the immediate and one month postpartum periods, among Mexican women: a mixed methods approach. *International Breastfeeding Journal*, *15*(1). https://doi.org/10.1186/s13006-020-00327-3

Horta, B. L., Victora, C. G., França, G. V., Hartwig, F. P., Ong, K. K., Rolfe, E. D. L., ... and Barros, F. C. (2018). Breastfeeding Moderates FTO Related Adiposity: abirth cohort study with 30 years of follow-up. *Scientific reports*, *8*(1), 2530.

Ickes, S. B., Sanders, H., Denno, D. M., Myhre, J. A., Kinyua, J., Singa, B., Lemein, H. S., Iannotti, L. L., Farquhar, C., Walson, J. L., &Nduati, R. (2021). Exclusive breastfeeding among working mothers in Kenya: Perspectives from women, families and employers. Maternal & Child Nutrition. https://doi.org/10.1111/mcn.13194

Idang Neji, O. (2015). Factors Influencing the Practice of Exclusive Breastfeeding among Mothers in Tertiary Health Facility in Calabar, Cross River State, Nigeria. *American Journal of Nursing Science*, *4*(1), 16. https://doi.org/10.11648/j.ajns.20150401.13

Idris, S. M., Tafeng, A. G. O., &Elgorashi, A. (2015). Factors Influencing Exclusive Breastfeeding Among Mother With Infant Age 0-6 Months. *Int J Sci Res*, *4*(8), 28-33.doi: 10.21275/sub157153.

Inoue, M., Binns, C. W., Otsuka, K., Jimba, M., & Matsubara, M. (2012). Infant feeding practices and breastfeeding duration in Japan: A review. *International Breastfeeding Journal*, *7*(1), 15. https://doi.org/10.1186/1746-4358-7-15

Jama, N., Wilford, A., Masango, Z., Haskins, L., Coutsoudis, A., Spies, L., &Horwood, C. (2017). Enablers And Barriers To Success Among Mothers Planning To Exclusively Breastfeed For Six Months: a qualitative prospective cohort study in KwaZulu- Natal, South Africa. *International Breastfeeding Journal*, *12*(1). doi: 10.1186/s13006-017-0135-8.

Janz, N. K., & Becker, M. H. (1984). The Health Belief Model: A decade later. *Health education quarterly*, *11*(1), 1-47.

Joseph, F. I., & Earland, J. (2019). A qualitative exploration of the sociocultural determinants of exclusive breastfeeding practices among rural mothers, North West Nigeria. *International Breastfeeding Journal*, *14*(1). https://doi.org/10.1186/s13006-019-0231-z

Joshi, P. C., Angdembe, M. R., Das, S. K., Ahmed, S., Faruque, A. S. G., & Ahmed, T. (2014). Prevalence Of Exclusive Breastfeeding And Associated Factors Among Mothers In Rural Bangladesh: a cross-sectional study. *International breastfeeding journal*, *9*(1), 7.

Kavle, J., Picolo, M., Buccini, G., Barros, I., Dillaway, C., & Pérez-Escamilla, R. (2019). Strengthening counseling on barriers to exclusive breastfeeding through use of job aids in Nampula, Mozambique. PLOS ONE, 14(12), e0224939.doi: 10.1371/journal.pone.0224939

Kimani-Murage, E. W., Kimiywe, J., Mutoro, A. N., Wilunda, C., Wekesah, F. M., Muriuki, P., Mwangi, B. M., Samburu, B. M., Madise, N. J., McGarvey, S. T., & Griffiths, P. L. (2021). Effectiveness of the baby-friendly community initiative on exclusive breastfeeding in Kenya. Maternal & Child Nutrition, 17(3). https://doi.org/10.1111/mcn.13142

Kimani-Murage, E., Madise, N., Fotso, J., Kyobutungi, C., Mutua, M., Gitau, T., &Yatich, N. (2011). Patterns and determinants of breastfeeding and

complementary feeding practices in urban informal settlements, Nairobi Kenya. *BMC Public Health, 11*(1). https://doi.org/10.1186/1471-2458-11-396

Kimani-Murage, E., Wekesah, F., Wanjohi, M., Kyobutungi, C., Ezeh, A., &Musoke, R. *et al*. (2014). Factors Affecting Actualization of The WHO Breastfeeding Recommendations In Urban Poor Settings In Kenya. *Maternal & Child Nutrition*, *11*(3), 314-332. doi: 10.1111/mcn.12161.

Kimani-Murage, E. W., Wilunda, C., Macharia, T. N., Kamande, E. W., Gatheru, P. M., Zerfu, T., Donfouet, H. P. P., Kiige, L., Jabando, S., Dinga, L. A., Samburu, B., Lilford, R., Griffiths, P., Jackson, D., Begin, F., & Moloney, G. (2021). Effect of a baby-friendly workplace support intervention on exclusive breastfeeding in Kenya. *Maternal & Child Nutrition*. https://doi.org/10.1111/mcn.13191

Kitiyo P., Kimiywe J. , Ogada I.(2020)Exclusive Breastfeeding Knowledge And Attitudes Among Mothers In Mother-To-Mother Support Groups In Kitui County, Kenya*International Journal of Health Sciences and Research Vol.10; Issue: 2;* Website: www.ijhsr.org Original Research Article ISSN: 2249-9571

Kuchenbecker, J., Jordan, I., Reinbott, A., Herrmann, J., Jeremias, T., & Kennedy, G. et al. (2014). Exclusive breastfeeding and its effect on growth of Malawian infants: results from a cross-sectional study. *Paediatrics And International Child Health*, *35*(1), 14-23. https://doi.org/10.1179/2046905514y.0000000134

Laksono, A. D., Wulandari, R. D., Ibad, M., &Kusrini, I. (2021). The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health*, *21*(1). https://doi.org/10.1186/s12889-020-10018-7

Li, J., Zhao, C., Wang, Y., Wang, Y., Chen, C., & Huang, Y. et al. (2020). Factors associated with exclusive breastfeeding practice among mothers in nine community health centres in Nanning city, China: a cross-sectional study. *International breast feeding journal*,https:// doi.org/10.1186/s13006-021-00416-x.

Luo, J., Prince, D., Mungai, K., & James, N. (2021). Knowledge, Attitude, and Practice of Exclusive Breastfeeding Among Mothers Attending Masaka District Hospital Kigali/Rwanda: a Cross-section Study. https://doi.org/10.21203/rs.3.rs-152011/v1

Mac Gregor, E., & Hughes, M. (2010*).*Breastfeeding experiences of mothers from disadvantaged groups: A review. *Community Practitioner, 83(7), 30-33.*

Mamo, K., Dengia, T., Abubeker, A., &Girmaye, E. (2020). Assessment of Exclusive Breastfeeding Practice and Associated Factors among Mothers in West Shoa Zone, Oromia, Ethiopia. *Obstetrics And Gynecology International*, *2020*, 1-6. https://doi.org/10.1155/2020/3965873

Maonga, A. R., Mahande, M. J., Damian, D. J., & Msuya, S. E. (2015). Factors Affecting Exclusive Breastfeeding among Women in Muheza District Tanga

Northeastern Tanzania: A Mixed Method Community Based Study. *Maternal and Child Health Journal*, *20*(1), 77–87. https://doi.org/10.1007/s10995-015-1805-z

Mapesa, J., Meme, J., &Muthamia, O. (2020). Effect of community-based nutrition on infant nutrition and associated health practices in Narok, Kenya. *African Health Sciences*, *20*(2), 724-734. https://doi.org/10.4314/ahs.v20i2.24

Masson, F., Rawe, K., and Wright, S. (2013). Superfood for Babies: how overcoming barriers to breastfeeding will save children's lives. London: Save the children.

Mbwana, H. A., Conlon, C., and Hurst, P. V. (2013). Exclusive Breastfeeding: Mothers' Awareness And Healthcare Providers' Practices During Antenatal Visits In Mvomero, Tanzania. *International Journal of Nutrition and metabolism, Vol. 5(3), 40-49.*

McAndrew, F., Thompson, J., Fellows, L., Large, A., Speed, M., & Renfrew, M. J. (2012). Infant feeding survey 2010. *Leeds: Health and Social Care Information Centre*.

Mekuria, G., & Edris, M. (2015). Exclusive breastfeeding and associated factors among mothers in Debre Markos, Northwest Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, *10*(1). https://doi.org/10.1186/s13006-014-0027-0

Mgongo, M., Hussein, T., Stray-Pedersen, B., Vangen, S., Msuya, S., &Wandel, M.(2019). Facilitators and Barriers to Breastfeeding and Exclusive Breastfeeding in Kilimanjaro Region, Tanzania: A Qualitative Study. *International Journal of Pediatrics, 2019,* 1-7. doi: 10.1155/2019/8651010.

M'Liria, J., Kimiywe, J. and Ochola, S., 2020. Impact of Mother-to-Mother Support Groups in Promoting Exclusive Breastfeeding in a Low-Resource Rural Community in Kenya: A Randomized Controlled Trial. *Current Research in Nutrition and Food Science Journal*, pp.609-621.

Mohamed, M., Ochola, S., &Owino, V. (2018). Comparison Of Knowledge, Attitudes And Practices On Exclusive Breastfeeding Between Prim Parous And Multiparous Mothers Attending Wajir District Hospital, Wajir County, Kenya: a cross-sectional analytical study. *International Breastfeeding Journal*, *13*(1). doi: 10.1186/s13006-018-0151-3.

Mundagowa, P., Chadambuka, E., Chimberengwa, P., &Mukora-Mutseyekwa, F. (2019). Determinants of exclusive breastfeeding among mothers of infants aged 6 to 12 months in Gwanda District, Zimbabwe. *International Breastfeeding Journal*, *14*(1). https://doi.org/10.1186/s13006-019-0225-x

Mugenda, O. &Mugenda A.(2003). Research methods: quantitative and qualitative approaches.

Muriithi, M. N. (2017). Compliance to exclusive breastfeeding of children by mothers seeking for maternal/child health services in Mathira Sub-county Hospitals, Nyeri County, Kenya *(Doctoral dissertation*).

Mututho, L.N., Kiboi, W.K. and Mucheru, P.K.(2017). Factors associated with exclusive breastfeeding in Kenya: a systematic review. *International Journal of Community, Medicine and Public Health,* 4 (12):4358-4362. doi. Org/10.18203/2394-6040.

National Bureau of Statistics-Kenya and ICF International. 2015. *2014 KDHS Key Findings.* Rockville,Maryland, USA: KNBS and ICF International.

National Bureau of Statistics-Kenya and ICF International. 2015. *2014 KDHS Key Findings.* Rockville,Maryland, USA: KNBS and ICF International.

Njeri, M. L. (2012). Factors Influencing Exclusive Breastfeeding Among Infants Less Than 6 Months InKasarani Informal Settlement, Molo District, Kenya (Doctoral dissertation, Master's thesis, Kenyatta University, Kenya).

Nkrumah, J. (2016). Maternal work and exclusive breastfeeding practice: a community based cross-sectional study in Efutu Municipal, Ghana. *International Breastfeeding Journal*, *12*(1). https://doi.org/10.1186/s13006-017-0100-6

Nukpezah, R., Nuvor, S., &Ninnoni, J. (2021).Knowledge and practice of exclusive breastfeeding among mothers in the tamale metropolis of Ghana.Reproductive health journal:https://doi.org/10.1186/512978-018-0579-3.

Nteziyaremye J.,Wataka S., Tumukunde P., Kawala E., Nekaka R.,(2021), Exclusive Breastfeeding in Manafwa District, Eastern Uganda - Opportunities and Challenges: A Mixed Methods Community Based Study. Prim Health Care, 2021, 11(4), 377

Ochola S. A.(2008). Evaluation of two counseling Strategies Promoting Exclusive Breast Feeding among HIV- negative mothers in Kibera slum,Nairobi Kenya: a randomized controlled trial. PHD thesis Stellenbosch University.

Ochola, S. A., Labadarios, D., & Nduati, R. W. (2012). Impact of counselling on exclusive breast-feeding practices in a poor urban setting in Kenya: a randomized controlled trial. *Public Health Nutrition*, *16*(10), 1732–1740. https://doi.org/10.1017/s1368980012004405

Ogbo F.A., Page A., Agho K. E. and Claudio F. (2015), Determinants of Trends in Breastfeeding Indicators in Nigeria. *Public Health NutritionJournal 1*8(18),3287- 3299, doi:10.1017/s136898001500052X.

Ogula, P. A. (2010). A guide to research proposal and report writing. *Nairobi CUEA 2010.*

Otsuka, K., Taguri, M., Dennis, C. L., Wakutani, K., Awano, M., Yamaguchi, T., &Jimba, M. (2014). Effectiveness of a breastfeeding self-efficacy intervention: dohospital practices make a difference? *Maternal and child health journal*, *18*(1), 296-306.

Olasinde, Y. T., Ibrahim, O. R., Idowu, A., Odeyemi, A. O., Olasinde, A., Agelebe, E., Ogunlaja, O. A., & Gbadero, D. A. (2021). Determinants of Exclusive Breastfeeding Practices Among Mothers of Infants Less Than Six Months Attending an Immunization Clinic in Southwestern Nigeria. *Cureus*. https://doi.org/10.7759/cureus.15975

Ragusa, R., Marranzano, M., La Rosa, V., Giorgianni, G., Commodari, E., &Quattrocchi, R. et al. (2021). Factors Influencing Uptake of Breastfeeding: The Role of Early Promotion in the Maternity Hospital. *International Journal Of Environmental Research And Public Health*, *18*(9), 4783. https://doi.org/10.3390/ijerph18094783

Rujumba, J., Ndeezi, G., Nankabirwa, V., Kwagala, M., Mukochi, M., Diallo, A. H., Meda, N., Engebretsen, I. M. S., Tylleskär, T., & Tumwine, J. (2020). "If I have money, I cannot allow my baby to breastfeed only …" barriers and facilitators to scale-up of peer counselling for exclusive breastfeeding in Uganda. *International Breastfeeding Journal*, *15*(1). https://doi.org/10.1186/s13006-020-00287-8

Salim, Y., & Stones, W. (2020). Determinants of exclusive breastfeeding in infants of six months and below in Malawi: a cross sectional study. Retrieved 7 January 2021

Sandhi, A., Lee, G., Chipojola, R., Huda, M. and Kuo, S., 2022. The relationship between perceived milk supply and exclusive breastfeeding during the first six months postpartum: a cross-sectional study.*International breast feeding journal* https:// doi.org/10.1186/s13006-020-00310-y.

Schmied, V., Beake, S., Sheehan, A., McCourt, C., & Dykes, F. (2011). Women's perceptionsandexperiencesof breastfeeding support: a metasynthesis. *Birth*, *38*(1), 49-60.

Senghore, T., Omotosho, T. A., Ceesay, O., & Williams, D. C. H. (2018). Predictors of exclusive breastfeeding knowledge and intention to or practice of exclusive breastfeeding among antenatal and postnatal women receiving routine care: a cross-sectional study. *International Breastfeeding Journal*, *13*(1). https://doi.org/10.1186/s13006-018-0154-0

Setegn, T., Belachew, T., Gerbaba, M., Deribe, K., Deribew, A., &Biadgilign, S. (2012). Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, *7*(1).doi: 10.1186/1746-4358-7-17.

Shakya, N., & Shakya, M. M. (2021). Barrier of early initiation of breastfeeding among postnatal mothers. *Journal of Patan Academy of Health Sciences*, *8*(1), 93–101. https://doi.org/10.3126/jpahs.v8i1.36860

Shiferaw, B. (2017). Factors Associated with Early Initiation and Exclusive Breastfeeding Practices among Mothers of Infant's Age Less Than 6 Months. *Journal Of Pediatrics & Neonatal Care*, *7*(3). doi: 10.15406/jpnc.2017.07.00292.

Sholeye, O. O., Abosede, O. A., &Salako, A. A. (2015).Exclusive breastfeeding and its associated factors among mothers in Sagamu, Southwest Nigeria. *Journal of health science, 5*(2), 25-31.

Statistics, South Africa. South African Demographic Health Survey 2016: Key indicator report. 2016, Pretoria, South Africa: Statistics South Africa. http:// www.statssa.gov.za/publications/Report%2003-00-09/Report%2003-00-092016.pdf.

Talbert, A. W., Ngari, M., Tsofa, B., Mramba, L., Mumbo, E., Berkley, J. A., & Mwangome, M. (2016). "When you give birth you will not be without your mother" A mixed methods study of advice on breastfeeding for first-time mothers in rural coastal Kenya. *International Breastfeeding Journal*, *11*(1). https://doi.org/10.1186/s13006-016-0069-6

Tarkwen, P. (2020). Breastfeeding Mothers' Knowledge on Ten Steps to Successful Breastfeeding in Kapsabet County Hospital, Nandi County, Kenya. *International Journal Of Scientific And Research Publications (IJSRP)*, *10*(8), 70-81. https://doi.org/10.29322/ijsrp.10.08.2020.p10412

Teka, B., Assefa, H., and Haileslassie, K. (2015). Prevalence and determinant factors of exclusive breastfeeding practices among mothers in Endertaworeda, Tigray, North Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, *10*(1), 2. doi: 10.1186/s13006-014-0028-z.

Tewabe, T., Mandesh, A., Gualu, T., Alem, G., Mekuria, G., and Zeleke, H. (2016). Exclusive breastfeeding practice and associated factors among mothers in Motta town, East Gojjam zone, Amhara Regional State, Ethiopia, 2015: a cross-sectional study. *International Breastfeeding Journal*, *12*(1). doi: 10.1186/s13006-017-0103- 3.

Thepha T., Marais D., Bell J. and Muangpin S. (2017). Facilitators and Barriers to Exclusive Breastfeeding in Thailand: A Narrative Review.Journal *of community and Public Health Nursing*3: 1. doi:10.4172/2471-9846.1000160.

Tuthill, E. L., Miller, J. D., Collins, S. M., Widen, E. M., Onono, M., & Young, S. L. (2020). HIV infection, hunger, breastfeeding self-efficacy, and depressive symptoms are associated with exclusive breastfeeding to six months among women in western Kenya: a longitudinal observational study. *International Breastfeeding Journal*, *15*(1). https://doi.org/10.1186/s13006-019-0251-8

UNICEF (2018). Breast feeding; A Mothers gift to every child data@unicef.org http://www.unicef.org/nutrition/

UNICEF (2016). From the first hour of life: Making the case for improved infant and young child feeding everywhere data@unicef.org http://www.unicef.org/nutrition/

UNICEF. (2010). Improving exclusive breastfeeding practices by using communication for development in Infant and Young Child Feeding programs. *New York: UNICEF*, 16.

UNICEF (2017). Infant and young child feeding. 2018. Dostupnona: https://data. unicef. org/topic/nutrition/infant-and-young-child-feeding.

US Department of Health and Human Services. (2011). Executive Summary the Surgeon General's Call to action to support breastfeeding. *Breastfeeding Medicine*, *6*(1), 3-5.

Victora, C. G., Bahl, R., Barros, A. J. D., França, G. V. A., Horton, S., Krasevec, J., and Rollins, N. C. (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet, 387(10017), 475–490. doi:10.1016/s0140-6736(15)01024-7.*

Wanjohi, M., Griffiths, P., Wekesah, F., Muriuki, P., Muhia, N., &Musoke, R. et al. (2016). Sociocultural factors influencing breastfeeding practices in two slums in Nairobi, Kenya. *International Breastfeeding Journal*, 12(1). doi: 10.1186/s13006-016-0092-7.

Watkins, K. (2016). State of the world children 2016: A fair chance for every child. UNICEF.

Weber D., Janson A., Nolan M., Wen,L.M. and Rissel C. (2011). Female employees' perceptions of organizational support for breastfeeding at work: findings from an Australian health service workplace.*InternationalBreastfeedingJournal, 6:19.* Doi10,1186/1746-4358-6-19.

World Health Organization.(2012). Breastfeeding and the use of Human milk. *Journal of the American Academy of pediatrics*,115, 2, 496.

World Health Organization. (2014). *Global nutrition targets 2025: breastfeeding policy brief* (No. WHO/NMH/NHD/14.7). World Health Organization.

World Health Organization, int. (2018).*Global breastfeeding scorecard: Enabling women to breastfeed though better policies and programs* Retrieved 7 May 2020, from https://www.who.int/nutrition/publications/infantfeeding/global-bf-scorecard-2018.pdf?ua=1.

Wu, H., Lu, D., &Tsay, P. (2022). Rooming-In and Breastfeeding Duration in First-Time Mothers in a Modern Postpartum Care Center. *International Journal Of Environmental Research And Public Health*, *19*(18), 11790. https://doi.org/10.3390/ijerph191811790

Zhou, Q., Chen, H., Younger, K., Cassidy, T., & Kearney, J. (2020). "I was determined to breastfeed, and I always found a solution": successful experiences of exclusive breastfeeding among Chinese mothers in Ireland. *International Breastfeeding Journal*, *15*(1). https://doi.org/10.1186/s13006-020-00292-x

APPENDICES

Appendix 1: Questionnaire

I am a student from the Moi University undertaking the course Master of Science in Nursing, Maternal and Neonatal health. I am interested in exploring factors associated with exclusive breast feeding at Moi Teaching and Referral Hospital.

Instructions

1. Do not write your name or identification anywhere on the questionnaire.
2. Respond by ticking box or providing response as appropriate.
3. The questionnaire has **FOUR** sections (A, B, C&D). Kindly respond to the questions asked.

SECTION A

A. DEMOGRAPHIC DATA

1. What is your age? ……
2. Where do you reside …….
3. What is your marital status?

   A. Married ☐ B. Single ☐ C. Divorced/separated ☐

   D. Widowed ☐ E. Others ……..

5. If married what is your husband's occupation?

   A. Casual worker [ ] B. Formal/regular (specify type of job) _____

   C. Self-employed (specify) _____

6. What is your level of education?

   A. None ☐ B. Primary ☐ C. Secondary ☐

   D. College/university ☐

7. How many children do you have……
8. What is your occupation?

A. Farmer ☐ B. Housewife ☐ C. Business ☐ D. Government employee ☐ E. Private co. employee ☐ F. Student ☐ G. Causal laborer H. Others ……

9. If working away from home, do you take the baby with you?

   A. Yes B. No

10. Which of the following items do you own?

A. Television [ ] B. Radio [ ] C. Telephone [ ] D. Video player [ ]

Infant details

11. How old is your baby? …….

12. Is this your 1st, 2nd or 3rd child?

A. One [ ] B.Two [ ] **C.** Three [ ] D**.** Specify ……

13. Sex of your child?

A) Male B) Female

14. Birth weight of a child …….. ……/ kg

15. Where did you deliver your child

A. Health facility B. Home C. Traditional Birth Attendant D. Others specify……

16. What is your Religion?

A. Catholic [ ] B. Protestant [ ] **C.** Islam [ ] D**.** Others (specify) ___

17. What was the mode of delivery

A. Normal delivery B. Caesarean section C. Assisted delivery

KNOWLEDGE

18. Have you ever heard of exclusive breastfeeding?

A. YES [ ] B. NO [ ]

19. If yes what does it mean?

A. Giving the baby breast milk and water only from birth
B. Giving the baby breast milk only from birth
C. Giving the baby breast milk and other baby foods from birth
D. Giving the baby foods, breast milk and water from birth

20 Where did you get the information on EBF?

A. Health workers [ ] B. Media [ ] C. Relatives [ ] D. Magazine [ ] E. Friend [ ]

E. Others (specify)……

21. What were you told about breast feeding?

A. Benefits of breastfeeding
B. Positioning of the baby
C. Exclusive breastfeeding
D. Management of breast problem
E. Expression of breast milk
F. Others (mention) ……..……..

22. What is the importance of yellowish milk/colostrum?

A. Nutritious

B. Protection against diseases

C. I don't know

D. Other (mention)……

23. For how long is breast milk sufficient for the baby?

A. 1 month [ ] B. 2 months [ ] C. 3 months [ ]

D. 4 months [ ] E. 5 months [ ]

24. How many times per day should the baby be breastfed

A. 3- 4 times [ ] B. 5-6 times [ ] C. On demand D. Other ……

25. What is the appropriate time to start complementary foods?

A. Less than 1 month [ ] B. 4 to 5 months [ ] C. 1 to 3 months[ ] D. 6 months

E. Over six months

C. PRACTICE

26. Have you ever practiced exclusive breastfeeding?

a) Yes ☐ b) No ☐

27. When did you place your child on the breast for the first time after delivery?

A. Immediately after delivery [ ] B. Within 1 hour [ ] C. 2-3 hours [ ]

D. Days (mention)…..

28. If delayed more than one hour, what were reasons that made you delay in breastfeeding initiation?

A. Caesarian section [ ] B. Baby was sick [ ] C. Mother was sick [ ]

D. Delayed milk secretion [ ]

29. After delivery, did you give your baby anything to eat/drink besides breast milk before starting breastfeeding?

A. Yes [ ] B**.** No [ ]

30. If yes, what did you give your baby?

A. Water [ ] **B.** Thin porridge [ ] **C.** Milk [ ] **D.** Others (specify)……

31. Do family members support breastfeeding?

A. Yes B. No

32. If yes, who gives you the support ……

A. Husband B. Mother In-law C. Sister D. Grandmother F. Neighbor G. Others specify……..

33. If employed, were you give maternity leave?

A. Yes [ ] B. No [ ]

34. If yes in the question 33, what was the duration in months?

A. 1 [ ] B. 2 [ ] C. 3 [ ] D. 4 [ ] E. Above 6 months [ ]

35. Does the employer support breastfeeding by giving time for the mother to go and breastfeed?

A. Yes [ ] B. No [ ]

36. Were you counselled on exclusive breastfeeding during antenatal care visit?

A. Yes [ ] B. No [ ]

D. BARRIERS

37. Did you experience any breastfeeding problems?

A. Yes [ ] B. No [ ]

38. If yes, what was the problem?

A. Abscess [ ] B. Mastitis [ ] C. Sore/cracked nipples [ ] D. Breast aches [ ]
E. Others mention ……..……

39. How did you manage the problem?

A. Express breast milk
B. Went to hospital for advice
C. Rub local herbs on it
D. Others (mention)…….…….

40. What do you think are the reasons for mothers not breastfeeding exclusively?

A. Lack of information
B. Work demand and limitation for other activities
C. Insufficient breast milk
D. Traditions and cultural beliefs
E. Belief it could make their breast flappy
F. High preference of men on well-shaped breast
G. It is inconvenient and embarrassing

41. When did you initiate breast feeding of your child? ……..

42. What do you think are the reasons for early cessation of breastfeeding?

A. History of depression

B. Obesity

C. Lower maternal education

D. Others specify ……..

43. Have ever been counselled on exclusive breastfeeding?

A. Yes [ ] B. No [ ]

44. If yes to above where were you counselled?

A. Antenatal clinic

B. During labor

C. Postnatal

D. Others specify…….

Appendix II: Budget

	Items	**Quantity**	**Unit price**	**Total**
1	Stationary			
	Biro pens	4	@20	80
	Foolscaps	1 ream	@500	500
	Stapler	1	@400	400
	Staple pins	1 Pct	@30	30
	Rubbers	2	@10	20
	Ruler	1	@30	30
	Pencil	2	@25	50
	Lap top	1	@80,000	80,000
	Sub total			81,110
2	Computer services			
	Flash disk	1	@2,000	2,000
	Internet & library services		@4,000	4,000
	Typing proposal	1 copy	@750	750
	Printing proposal	6 copies	@2000	12,000
	Researcher assistants	2 people	@10,000	20,000
	Data analyst	1person	@20,000	20,000
	Typing dissertation	2 copies	@1,000	2000
	Printing dissertation	2 copy	@500	1,000
	Binding dissertation	3 copies	@500	1500
	Sub total			63,250
3	NACOSTI fee	1		1,000
	Ethical committee			2,000
4	Contingency 10%			14,736
	Total			162,096

APPENDIX I11: TIMEFRAME

ACTIVITY	JAN-MAY 2019	JUNE 2019	JULY-SEPT	OCT. 2019	NOV.-DEC 2019	JULY-2020	AUG- 2020	NOV- 2020	MARCH- 2021
Proposal preparation and review									
Proposal defense									
Submission to IREC and corrections									
Pretesting the study instrument									
Data collection									
Data analysis and report writing									
Presentation and final submission									

APPENDIX IV: CONSENT

PARTICIPATION CONSENT FORM

Dear participant'

I am Edith Tesot a student pursuing Masters of Science in Maternal and Neonatal Health degreeatMoi University. I am carrying out a study on the "Factors associated with exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital".

Background: Exclusive breastfeeding is the optimal way of feeding the infant, the health benefits on child survival, growth and development as well as the wellbeing of the mother is well documented. Promoting, protecting and supporting breastfeeding is paramount in meeting sustainable development goals by 2030; however, breastfeeding uptake in Kenya is sub-optimal. A study on factors associated with exclusive breastfeeding is necessary in identifying the target context that will guide in providing the specific interventions that will help in sustaining optimal infant breastfeeding practices at Moi Teaching and Referral Hospital.

Objective: To determine the factors associated with exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital.

Disclosure: Study Goal: This questionnaire is part of a study to determine the factors associated with exclusive breastfeeding among mothers attending child welfare clinic at Moi Teaching and Referral Hospital.

Benefits: This needs assessment will indicate results which will give recommendations on factors associated with exclusive breastfeeding. The study is intended to provide useful information that would help in identifying likely factors associated with exclusive breastfeeding attending child welfare clinic for specific intervention through health education and promotion. It will also identify knowledge gaps in the hospital about exclusive breastfeeding and management as a result help the hospital to organize for seminars that will address this knowledge deficit.

Voluntariness of participation: Participation is voluntary and there is no penalty for declining to participate. If you wish to know the results they will be availed to you. You

may ask any questions about the research. Taking part in this study is completely your choice.

Potential Risks: There are no risks for participating in the study. Your participation will require you to commit your time since it will take some few minutes to fill in the questionnaire .Please be truthful in your responses.

Confidentiality: Participants are assured that anonymity is guaranteed. The data are confidential; only grouped data will be reported.

Rights to withdraw: You are free to withdraw from the study at any time without any fear of victimization.

Thank you for your time.

Consent certificate

Respondents consent

I hereby wish to declare that I have read and understood and also the investigator has explained to me about the study and that all my concerns have been addressed to my satisfaction. My signature is proof that I have voluntarily given an informed consent to participate in the study.

Signature of Participant_____

Signature of witness (if participant cannot read)_____

Signature of researcher _____

Date of signed consent_____

Who to Contact:

If you have any questions please do not hesitate to ask. Clarifications may be sought from the following:

Edith Tesot (Principle investigator)

Cell phone no. 0724274311, or email: Chepkirui.tesot@yahoo.com

Or Dr. Dinah Chelagat, PhD or Dr. Priscah Mosol, PhD (Lead supervisors)

Lecturers School of Nursing (Moi University)

Appendix V: IREC Approvals

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471//2/3

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 33471/2/3

Reference: IREC/2019/266
Approval Number: 0003549

23rd April, 2020

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE
23 APR 2020
APPROVED
P. O. Box 4606-30100 ELDORET

Edith Chepkirui Tesot
Moi University,
School of Nursing,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Ms. Tesot,

FACTORS ASSOCIATED WITH EXCLUSIVE BREAST FEEDING AMONG MOTHERS ATTENDING CHILD WELFARE CLINIC AT MOI TEACHING AND REFERRAL HOSPITAL

This is to inform you that ***MU/MTRH-IREC*** has reviewed and approved your above research proposal. Your application approval number is ***FAN:0003549.*** The approval period is **23rd *April, 2020 – 22nd April, 2021.***

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by ***MU/MTRH-IREC***.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to ***MU/MTRH-IREC*** within 72 hours of notification.
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to ***MU/MTRH-IREC*** within 72 hours.
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to ***MU/MTRH-IREC.***

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Sincerely,

DR. S. NYABERA
DEPUTY-CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc CEO - MTRH Dean - SOP Dean - SOM
Principal - CHS Dean - SON Dean - SOD

Appendix VI: Hospital Approval (MTRH)

An ISO 9001:2015 Certified Hospital

MOI TEACHING AND REFERRAL HOSPITAL

Telephone :(+254)053-2033471/2/3/4
Mobile: 722-201277/0722-209795/0734-600461/0734-683361
Fax: 053-2061749
Email: ceo@mtrh.go.ke/directorsofficemtrh@gmail.com

Nandi Road
P.O. Box 3 – 30100
ELDORET, KENYA

Ref: ELD/MTRH/R&P/10/2/V.2/2010

29th April, 2020

Edith Chepkirui Tesot,
Moi University,
School of Nursing,
P.O. Box 4606-30100,
ELDORET-KENYA.

APPROVAL TO CONDUCT RESEARCH AT MTRH

Upon obtaining approval from the Institutional Research and Ethics Committee (IREC) to conduct your research proposal titled:-

"Factors Associated with Exclusive Breast Feeding among Mothers Attending Child Welfare Clinic at Moi Teaching and Referral Hospital".

You are hereby permitted to commence your investigation at Moi Teaching and Referral Hospital.

MOI TEACHING AND REFERRAL HOSPITAL
CEO
APPROVED
29 APR 2020
SIGN.....
P. O. Box 3 - 30100, ELDORET

29/04/2020

DR. WILSON K. ARUASA, *MBS*
CHIEF EXECUTIVE OFFICER
MOI TEACHING AND REFERRAL HOSPITAL

cc - Senior Director, (CS)
- Director of Nursing Services (DNS)
- HOD, HRISM

Appendix VI: NACOSTI Approval

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **102767**

Date of Issue: **05/October/2020**

RESEARCH LICENSE

This is to Certify that Ms.. Edith Chepkirui Tesot of Moi University, has been licensed to conduct research in Uasin-Gishu on the topic: FACTORS ASSOCIATED WITH EXCLUSIVE BREAST FEEDING AMONG MOTHERS ATTENDING CHILD WELFARE CLINIC AT MOI TEACHING AND REFERRAL HOSPITAL for the period ending : 05/October/2021.

License No: **NACOSTI/P/20/6952**

102767

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

1. The License is valid for the proposed research, location and specified period
2. The License any rights thereunder are non-transferable
3. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research
4. Excavation, filming and collection of specimens are subject to further necessary clearence from relevant Government Agencies
5. The License does not give authority to tranfer research materials
6. NACOSTI may monitor and evaluate the licensed research project
7. The Licensee shall submit one hard copy and upload a soft copy of their final report (thesis) within one year of completion of the research
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice

National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke