

AN INTERVENTION PROGRAMME TO PROMOTE EXCLUSIVE BREASTFEEDING STRATEGIES IN LIMPOPO PROVINCE, SOUTH AFRICA

by

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DECLARATION

I, **Mudau Azwinndini Gladys**, declare that this thesis titled '**An Intervention Programme to Promote Exclusive Breastfeeding Strategies in Limpopo Province, South Africa**' hereby submitted for the degree **Doctor of Philosophy in Public Health (PhDPH)** at the **University of Venda** has not been previously submitted for a degree at this or any other University, and that it is my own work in design and in execution, and that all reference materials contained herein has been duly acknowledged.

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DEDICATION

To my late mother, Mrs Nkhumeleni Elisa Ravele, and my late mother in-law, Mrs Munyadziwa Selina Mudau.

Your sacrifices were never in vain and this is the fruit it has produced. May your souls rest in perfect peace.

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ABSTRACT

The benefits of breastfeeding, particularly exclusive breastfeeding, are well recognized. It can reduce the risk of mortality related to malnutrition, otitis media and respiratory infection. Breastfeeding may also decrease the risk of obesity in later life for infants who have been breastfed for more than six months. Besides, breastfeeding improves cognition, and children who have been breastfed show higher intelligence quotient test scores and improved school performance. In addition, long-period breastfeeding is associated with a reduced risk of breast cancer and ovarian cancer for mothers. The World Health Organization and United Nations International Children's Emergency Fund recommended exclusive breastfeeding for six months and breastfeeding to two years and beyond. However, this study showed that only 27% of children under six months have had been exclusively breastfed. In this situation, an intervention programme was required.

The aim of this study was to develop an intervention programme to promote exclusive breastfeeding strategies in Limpopo Province. Intervention mapping was used to guide the development of a programme. A convergent, parallel mixed-method was used wherein qualitative and quantitative data were collected and analysed concurrently. A qualitative approach was used to assess the implementation of exclusive breastfeeding and to explore challenges experienced by health care workers in the implementation of exclusive breastfeeding in Limpopo Province. This was carried out by means of in-depth interviews with 30 professional nurses. Trustworthiness was ensured through credibility, confirmability, dependability and transferability. A

quantitative approach was used to determine the factors that influence exclusive breastfeeding. Reliability and validity of the instrument was ensured through extensive literature review and test-retest methodology. Questionnaires were distributed to 400 respondents. Tesch's eight steps of data analysis was used to analyse qualitative data. The Statistical Package for the Social Sciences, version 26, was used to analyse the quantitative data. The results were merged, and the interpretation discussed. Five higher-order themes emerged from quantitative data analysis. The themes emerged from qualitative data were confirmed by the findings from statistical data, thus merging both qualitative and quantitative data. Findings were presented to the stakeholders, managers and dieticians and their inputs further confirmed and supported the findings. The findings informed the development of an intervention programme. The intervention comprises of the three components, training of community health workers, healths talks focusing on lactating mothers and health talks focusing on families and community. The developed intervention was validated by the stakeholders and the results were analysed through simple descriptive statistics where the data were summarized using frequency distributions and graphic representations. The results revealed that the programme was feasible, compatible and applicable to current practice. Recommendations were made and topics for further research were also suggested.

Keywords: Breastfeeding, Exclusive breastfeeding, Intervention programme

LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Treatment
ARVs	Antiretroviral Drugs
BFHI	Baby - Friendly Hospital Initiative
BPC	Breastfeeding Peer Counselling
BPCP	Breastfeeding Peer Counselling Programme
CBPR	Community-Based Participatory Research
CDC	Centres for Diseases Control and Prevention
CHCW	Community Health Care Workers
DFH	Donald Fraser Hospital
DG	Director-General
DHIS	District Health Information System
DIT	Diffusion and Innovation Theory
DoH	Department of Health
DNA-PCR	Deoxyribonucleic Acid-Polymerase Chain Reaction
EBF	Exclusive Breastfeeding
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
Hrs	Hours
HOD	Head of Department
IM	Intervention Mapping
IMCI	Integrated Management of Childhood Illness
IYCF	Infant and Young Child Feeding Policy

KMC	Kangaroo Mother Care
MBFI	Mother-Baby Friendly Initiative
MEC	Member of the Executive Council
MNCH	Maternal, Newborn and Child Health
NCWH	Newborn, Child and Women's Health
NDoH	National Department of Health
NGO	Non-Governmental Organization
NICU	Neonatal Intensive Care Unit
PHC	Primary Health Care
PMTCT	Prevent of Mother-to-Child Transmission
PRECEDE-PROCEED	Predisposing, Reinforcing, Enabling Constructs in Educational / Environmental Diagnosis and Evaluation-Policy, Regulatory and Organizational Constructs in Educational and Environmental Development
RPC	Research and Publication Committee
SA	South Africa
SDGs	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
STATSSA	Statistics South Africa
UK	United Kingdom
UNICEF	United Nations Children Fund
UNAIDS	United Nations Programme on HIV/AIDS
US	United States
USA	United States of America
WHA	World Health Assembly
WHO	World Health Organization

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CHAPTER 1

STUDY OVERVIEW

1.1 Introduction and Background to the Study

This chapter provides an overall introduction to the study, the problem statement and justification for the need of the study. It also elaborates on the aims and objectives of the study. The utility of the study and its likely impact on practice are also explained.

Breastfeeding has been considered by public health practitioners as the ideal feeding practice for infant, because it has benefits for both mother and baby (Brown, 2017). Significantly, breastfeeding promotes bonding between the mother and her infant, it is the first interaction between the mother and her newborn (Walters, Horton & Siregar, 2016). Benefits related to the mother include helping mothers to lose weight after pregnancy and stimulating the uterus to return to its normal position (World Health Organization (WHO), 2014). Benefits related to the baby include boosting the baby's immune system; breast milk has antibodies that fight microorganisms and prevent obesity later in life (Horta & Victoria, 2013).

To enjoy these benefits fully, WHO (2013) recommends that infants should initiate breastfeeding within 30 minutes after birth, exclusively breastfeed for six months and continue for two years. Breastfeeding initiated within 30 minutes after birth is one of the most effective ways of protecting the health of both the baby and the mother.

Breastfeeding initiation is defined by WHO as a provision of mother's breast milk to infants within 30 minutes after birth and ensures that the infant receives the colostrum which is rich in protective factors (WHO, 2013). Exclusive breastfeeding (EBF) refers to the practice of feeding an infant on breast milk alone for the first six months of life without the addition of other food or water (Department of Health (DoH), 2013). Current evidence indicates that early initiation increases the likelihood of EBF as well as the overall duration of breastfeeding (Horta & Victoria, 2014).

Breastfeeding feeding is crucial to prevent morbidity and mortality among children. EBF and continued breastfeeding with appropriate complementary feeding are the main factors in child survival, growth and development (Apand, 2014). When breast milk no longer supplies infants with the required energy to sustain normal and optimal growth and development, solid food should be introduced, and this process is known as complementary feeding (Motee & Jeewon, 2019).

Per WHO recommendations, the appropriate age at which solids should be introduced is six months, owing to the immaturity of the gastrointestinal tract and the renal system (Motee & Jeewon, 2019). It is recommended that mothers could use supplementary sources such as water or solid baby food to feed their babies from six months to achieve optimum growth and development (WHO, 2014).

Breastfeeding policies were developed to create positive environment for breastfeeding and encourage lactating mothers and families' decision-making regarding infant feeding practices (Walters, Eberwein, Sullivan, D'Alimonte & Shekar, 2017). Efforts were made to protect, promote and support EBF, through several

strategies such as the Innocenti Declaration, the Baby Friendly Hospital Initiative (BFHI), the International Code of Marketing Breast-milk substitutes and the Infant and Young Child Feeding (IYCF) Policy. The aim of the strategies was to promote, protect and support breastfeeding (WHO, 2013). The Innocenti Declaration is a global strategy on the protection, promotion and support of breastfeeding was produced and adopted by the WHO/United Nation Children Fund (UNICEF) policymakers meeting on breastfeeding in the 1990s. The declaration recognizes that breastfeeding is a unique process that provides ideal nutrition for infants and contributes to their healthy growth and development; reduces incidence and severity of infectious diseases, thereby lowering infant morbidity and mortality and contributes to women's health by reducing the risk of breast and ovarian cancer by increasing the spacing of pregnancies (DoH, 2016).

Research conducted in South Africa by Siziba, Hanekom and Wentzel-Viljoen (2015) found that these benefits increase with increased exclusiveness of breastfeeding during the first six months of life; thereafter increases duration of breastfeeding with complementary foods and educational intervention programme can result in positive changes in breastfeeding behaviour. The Innocenti Declaration, therefore, declared that all women should be enabled to practice EBF and all infants should be fed exclusively on breast milk from birth to six months of age. Thereafter, children should continue to be breastfed while receiving appropriate and adequate complementary foods, for up to two years and beyond (DoH, 2014). The Innocenti Declaration recognizes that inappropriate infant and young child feeding, sub-optimal or no breastfeeding and inadequate complementary feeding, are threats to child health

(DoH, 2014).

The IYCF Policy (DoH, 2014) was developed to define strategies and actions that should be implemented to promote, support and protect appropriate infant and young child feeding practices, including in the context of the Human Immunodeficiency Virus (HIV). The policy recommendations also address the need of EBF for infants born to HIV-infected mothers. Antiretroviral drugs (ARVs) now allow these infants to exclusively breastfeed until six months old and continue to at least 12 months with reduced risk of HIV transmission (WHO, 2018). This child-feeding practice is to be achieved by creating an appropriate environment of awareness and support. The international code of marketing of breast milk substitutes is an international policy framework for breastfeeding promotion adopted by the World Health Assembly (WHA) of WHO in 1981 to minimize formula marketing in birthing facilities to ensure that mothers are not discouraged from breastfeeding and that substitutes are used if needed.

The code aims to protect breastfeeding from commercial promotion that affects mothers, health workers and health care systems: mothers should not be given free formula product samples, and health risks to infants who are artificially fed or who are not exclusively breastfed should be highlighted through appropriate labelling and warnings. The code gives health workers the responsibility to encourage and protect breastfeeding, and promotion of any breastfeeding substitute product is forbidden in health care facilities (DoH, 2014). The Baby-Friendly Hospital Initiative (BFHI) is a global initiative aimed at creating a health care environment that is promotive, protective and supportive of breastfeeding as the norm through implementing the ten

steps to successful breastfeeding (Table 1.1) (WHO, 2010).

Table 1.1: Ten steps to successful breastfeeding (WHO, 2018)

1.	Have a written breastfeeding policy that is routinely communicated to all health care staff.
2.	Train all health care staff in skills necessary to implement this policy.
3.	Inform all pregnant women about the benefits and management of breastfeeding.
4.	Help mothers to initiate breastfeeding within one hour of birth.
5.	Show mothers how to breastfeed and maintain lactation, even they should be separated from their infants.
6.	Give new born infant no food or drink other than breast milk, unless medical indicated.
7.	Practice rooming in-that is, allow mothers and infants to remain together 24 hours a day.
8.	Encourage breastfeeding on demand.
9.	Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10.	Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Through the implementation of these steps, women are motivated to EBF at discharge. However, some women discontinue thereafter (Mosher, Sartar & Hashem, 2016). The Integrated Management of Childhood Illness (IMCI) programme was also initiated in 1995 to promote growth and development among children and it emphasized EBF and timely the introduction of solids. IMCI is a public health strategy that promotes a holistic approach to the management of under-five children, addressing promotive and preventive aspects of child health, as well promoting appropriate feeding; EBF and continued breastfeeding up to two years and beyond (Gera, Shah Garner, Richardson & Sachdev, 2016). In South Africa, all health care workers working with children under the age of five years need to train in IMCI and encouraged and supported to use it correctly (Hatting, Dreyer & Roos, 2014). Per the district Health

Information System (DHIS) (2016), at least 80% of professional nurses in Limpopo Province are IMCI trained.

Another strategy, MomConnect, was initiated in 2014 to support maternal health through the integration of cell phone-based technologies into maternal and child health services such as EBF and the introduction complementary foods (WHO, 2014). Large numbers of maternal and child death could be avoided if some basic interventions are implemented; some factors like breastfeeding and EBF are linked to the pregnant women and lactating mothers and need behaviour change; other factors are linked to birthing facilities and need improvement in the supply-side and linked to health service improvement. MomConnect is well-placed to address some of these demands and supply side problems (WHO, 2014). MomConnect is not usable for every lactating mother because it requires airtime and data.

Efforts were made to increase women's confidence in their ability to breastfeed such as peer counselling support groups, use and Community Health Care Workers (CHCWs) and breastfeeding counsellors, however, the rate of EBF remains low worldwide (Bodo, 2014). Peer counselling using older women, home-based peer breastfeeding counselling and trained peer counsellors had positive effects on EBF rates in Uganda as Infant and young child feeding counselling indicated a total increase of 28.3% in EBF for the first six months (Walters, Horton & Siregar, 2016). Using older women for peer counselling was effective at clarifying misconceptions regarding breastfeeding as well as discouraging inappropriate cultural practices (Bodo, 2014).

Women support groups have also been used to strengthen breastfeeding promotion in countries such as Ghana, Guatemala and Cambodia. These support groups consist of mothers who come together to support, encourage and assist each other, to promote breastfeeding continuation among members. In Cambodia, the EBF rate increased from 11% to 60% when the support group was implemented (WHO, 2014). In Tanzania, infant feeding counselling older woman played a major role in supporting the mother's decision to breastfeed exclusively (Mgongo, Mosha, Uriyo, Msuya & Stray- Pederson, 2013).

Mass media has been another strategy used in the promotion of breastfeeding in developing region like Asia, Africa and Latin America, including among HIV-positive mothers (WHO, 2014). In Zimbabwe, breastfeeding promotion messages to HIV-positive mothers, through mass media were received without fear of stigma, especially through distributing pamphlets which increased the rate of EBF from 11% to 24% (Munjoma, 2015).

Australia implemented its first national breastfeeding week in 2010 aimed at protecting, promoting, supporting and monitoring EBF through each level of government and in non-governmental organisations (Australian Government, 2010). However, EBF remained low in Australia. EBF in the United Kingdom (UK) is shocking at 1%, one of the lowest worldwide. After the promotion of "the breast milk is the best" message, women breastfed more than before. Initiation rate in the UK increased to 80% although lactating mothers are still let down by a society where artificial formula feeding has become the norm (World Alliance for Action, 2017).

Despite all these efforts, the WHO estimates that the rate of EBF is only 40% worldwide; in Sub-Saharan Africa, it is 33%, Asia 32%, America and the Caribbean 30%. The rates are still very low compared to the recommended 90% target by WHO (Rollins, Bhandari & Hajeebhoy, 2016). Statistics South Africa (STATSA) (2016), rated initiation of breastfeeding at 78-98%, while the EBF rate is 32%, with Limpopo Province being rated at 8%, one of the lowest in South Africa (UNICEF, 2017).

In South Africa, it has been observed that very few babies are exclusively breastfed during their first six months of life. Many babies are given solid feeds between two and three months of age and even within a few days of birth (Du Plessis, Peer, Honikman & English, 2016). These poor feeding practises predispose South Africans to poor health outcomes in both their infant and young child years, as well as the adulthood (Siziba, Hanekom & Wenzel-Viljoen, 2015). Community dialogue conducted in Kwazulu-Natal to identify barriers to EBF indicated the influence of the community and elders like grandmothers (Du Plessis *et al.*, 2016). A study byc Siziba *et al.*, (2015) showed that most women do not breastfeed exclusively because they are afraid of insufficiency of milk; they perceive that the infant is still hungry and is not being adequately fed with breast milk only (Van der Merwe, Du Plessis & Jooste, 2015). Other factors which fuelled negative attitudes are negative perceptions of breastfeeding among younger women and girls, lack of knowledge, desire for social acceptance and pressure to maintain ideal body shape in the North-West Province, young women choose not to breastfeed because they believe that breastfeeding can damage their bodies and flatten their breasts. Traditional and cultural factors are strong determinants of breastfeeding in South Africa. In the Northern Cape, traditional

medicines are given to the babies immediately after birth to protect them against witchcraft (Siziba *et al.*, 2015).

In Limpopo Province, soft porridge mixed with herbs is commonly given immediately after birth to provide the infant with energy since breast milk is believed to be insufficient for the infant (Siziba, 2015). Previous research also shows that lack of knowledge, poor staff attitudes and perceptions regarding EBF; culture, beliefs, and absence of resources, skills as well as lack of support from the family and high prevalence of HIV contribute to poor breastfeeding (West, Renz & Jenmalm, 2015). This study, therefore, sought to develop an intervention programme to promote EBF strategies in Limpopo Province.

1.2 Problem Statement

Despite the availability of cost-effective prevention measures, acute respiratory infections and diarrhoeal diseases remain among the leading causes of child mortality; in 2015 an estimated 9% of global under-five deaths were due to acute respiratory infection (WHO, 2016). Malnutrition contributes to nearly half of deaths in children and infants worldwide due to poor feeding practices (UNICEF/WHO, 2016). In South Africa, malnutrition is one of the causes of infant and child mortality (DoH, 2014). Current evidence indicates that 64% of infants are dying due to malnutrition in South Africa, with 30.2% in Limpopo Province (UNICEF/WHO, 2017).

Breastfeeding is recognized as a key intervention, for the prevention of malnutrition, diarrhoeal diseases and pneumonia. Despite this, breastfeeding rates in South Africa have been amongst the lowest in Sub-Saharan Africa. Per the 2016 South Africa

Demographic and Health Survey, 76% of infants were breastfed in the first three months of life although only 36% were exclusively breastfed and this figure dropped to 31.6% for the subsequent three to six months.

The percentage of children who are exclusively breastfed has risen from 7% in 1998 to 32% in 2016, which is still far from the target of 50% (DoH, 2017). During the entire period from 0-6 months of age, 32% of infants were exclusively breastfed. No district in Limpopo Province managed to achieve a rate above the national target (DoH, 2017). The researcher has been working in the Primary Health Care (PHC) services and observed that EBF is not practised as expected. In South Africa, solid feeds are introduced at an early age ranging from one month in the Northern Cape to four months in the Eastern Cape (DoH, 2016; Table 1.2). Although the WHO and the DoH recommend that all babies should be exclusively breastfed, the rate at six months in Limpopo Province is still low at 8% (Table 1.2), while breastfeeding initiation is at 98% at birth (DoH, 2016).

Table 1.2: Summary of EBF rates in South Africa (DoH, 2016)

Province	EBF (%)	Age at which solids were introduced
Mpumalanga	35	3/12
Eastern Cape	35	4/12
Free State	7	3/12
Northern Cape	2	1/12
Western Cape	6	3/12
Limpopo	8	3/52

Initiation in different districts ranges from 79% at Waterberg, 80% at Sekhukhune,

88% at Capricorn and 99% in Vhembe (Table 1.3). However, many mothers discontinue breastfeeding after being discharged from hospitals (DoH, 2014). In Limpopo Province, a traditional soft porridge mixed with herbs is given immediately after birth and at three weeks.

Table 1.3: EBF rates in Limpopo Province (%) (DoH, 2014).

EBF Practices	Vhembe District	Capricorn District	Mopani District	Sekhukhune District	Waterberg District
Initiation Breastfeeding	99	88	95	80	79
0-3 Months	14	10	13	8	5
0-4 Months	2	1	4	1	-
0-6 Months	-	-	1	-	-

The statistics in Tables 1.2 and 1.3 indicate that there is a need for an intervention to improve adoption of EBF practices for six months and continue up to two years and beyond (DoH, 2016). Therefore, this study focused on developing an intervention programme to promote EBF strategies in Limpopo Province.

1.3 Significance of the Study

This study is important because it may enable health care personnel to do something practical about the current situation of low EBF rate and to participate actively in the process of promoting EBF practices. The anticipated intervention might also be implemented in health care facilities throughout Limpopo Province to promote EBF practices and it might reduce malnutrition and death caused by poor feeding practice. This may lead to healthy babies and children thus reducing the burden on the budget of New Born, Women and Child Health (NWCH) services. The anticipated Intervention

may be disseminated for approval by the NDoH and adopted as a protocol to be used by all health care workers in South Africa.

This study will provide a blueprint for future research on EBF, as well as save babies. Other researchers may identify gaps and come up with new interventions. Recommendations from this study may assist policymakers to review the current policy to prevent the high infant mortality rate and promote quality life for the infants.

1.4 Purpose of the Study

The purpose of this study was to develop an intervention programme to promote EBF strategies in Limpopo Province, South Africa.

1.5 Objectives of the Study

The objectives of the study were arranged in phases.

1.5.1 Phase 1: Needs Assessment

1.5.1.1 Stage 1: Qualitative Approach

- ✳ To assess the implementation of EBF in Limpopo Province; and
- ✳ To explore challenges experienced by health care workers in the implementation of EBF in Limpopo Province.

1.5.1.2 Stage 2: Quantitative Approach

- ✳ To determine predisposing, enabling and reinforcing factors that contribute in the implementation of EBF in Limpopo Province.

1.5.2 Phase 2: Development and Validation of an Intervention Programme

1.5.2.1 Stage 1

- ✿ To develop an intervention programme to promote EBF strategies in Limpopo Province.

1.5.2.2 Stage 2

- ✿ To validate the developed intervention programme.

1.6 Conceptual and Operational Definitions of the Concepts

1.6.1 Breastfeeding

Breastfeeding is the feeding of babies and young children with milk from women's breasts (Hornby, 2017). In this study, breastfeeding is when the child receives breast milk from mother's breast or by cup.

1.6.2 Exclusive Breastfeeding

EBF refers to when an infant receives only breast milk and no other liquids or solids, not even water, except for drops or syrups consisting of vitamins, mineral supplements or medicines prescribed by a health facility (WHO, 2016). In this study, EBF is when the child receives only breast milk for the first six months of life

1.6.3 Intervention

Intervention refers to the action and process of intervening (Hornby, 2017). In this study, an intervention is a specific set of activities and accompanying materials developed to improve adoption of exclusive breastfeeding practices.

1.7 Layout of the Study Chapters

The study comprises of eight chapters arranged as follows:

1.7.1 Chapter 1: Introduction and Background to the Study

Chapter 1 entails an overview of the study. It gives background on how EBF is implemented in Limpopo Province. The chapter also comprises the problem statement, purpose and objectives, significance and rationale of the study. The researcher also defined the concepts and layout of the study.

1.7.2 Chapter 2: Literature Review

This chapter covers the review of literature which includes: The legislation related to EBF; Implementation of EBF worldwide, in South Africa and Limpopo Province; The benefits of EBF and the factors that influence EBF; and the challenges experienced by health care workers in the implementation of EBF.

1.7.3 Chapter 3: Methodology

Chapter 3 presents and describes the convergent mixed-methods research designs employed in this study, which comprises both qualitative and quantitative approaches. It also describes the study population, sampling procedures and the sample size. The chapter also describes the data collection tool and methods used for data analysis.

1.7.4 Chapter 4: Presentation and Interpretation of Qualitative Data

This chapter presents the interpreted qualitative results. The chapter describes the findings on the implementation of EBF in Limpopo Province and the challenges experienced by the health care workers selected for the study.

1.7.5 Chapter 5: Presentation and Interpretation of Quantitative Data

This chapter presents the interpreted quantitative results. It describes the factors that influence EBF among lactating mothers in Limpopo Province.

1.7.6 Chapter 6: Discussion

This chapter discusses the findings of both the qualitative and quantitative studies.

1.7.7 Chapter 7: Development and Validation of an Intervention Programme

This chapter covers the development of an intervention programme. It describes the objectives of the programme, the theoretical framework that guided the development and validation of the programme to promote EBF strategies in Limpopo Province.

1.7.8 Chapter 8: Recommendations, Conclusions and Limitations of the study

This chapter provides the limitations, conclusions and recommendations for further research.

1.8 Summary

This chapter has set the background and study rationale as well as stated the aims and objectives of the study, definition of the terms and the layout of the chapters. The next chapter will present the literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The literature reviewed were from developed countries, for example, Australia, United Kingdom, and Sub-Saharan countries such as Tanzania, Nigeria, Zimbabwe, Kenya and Uganda. The researcher used an integrated literature review methodology wherein empirical and theoretical literature was summarized to provide a more comprehensive understanding of the implementation of EBF (Cresswell, 2014).

All full articles written in English from 2012 to 2019 were included in the study. Textbooks, World Health Reports, South African National and District Health Reports and full-text articles formed part of the review.

Therefore, in this chapter, worldwide relevant literature to EBF is discussed. The literature covers legislation related to breastfeeding, implementation of EBF worldwide, implementation of EBF in South Africa, challenges with implementation of EBF and factors related to implementation of EBF.

2.2 Conceptual Framework: Infant and young child feeding policy

The researcher engaged the conceptual frameworks from the breastfeeding policy, IYCF Policy (DoH, 2013). The policy was considered as a reinforcement in the development of the programme because it is the legislative body that governs and ensures the execution of health care workers in the implementation of EBF. The aim of the policy is to define strategies and actions that should be implemented to promote, support and protect appropriate infant and young child feeding practices, including in the context of HIV. The scope of this policy applies to different stages of the continuum of care for mothers, infants and children, namely, antenatal, intrapartum, postnatal and follow-up care and cover key components (Table 2.1) to be implemented in health facilities caring for mothers, infants and young children (WHO, 2013).

Table 2.1: Key components of the Infant and Young Child Feeding Policy (WHO, 2013)

1.	Early initiation of breastfeeding in health facilities.
2.	Exclusive breastfeeding (EBF) for the first six months.
3.	Continued breastfeeding for two years and beyond.
4.	Feeding the infant in the context of HIV.
5.	Use of commercial formula.
6.	Complementary foods from the age of six months.
7.	Feeding the infant and young child in difficult circumstances.
8.	Responsibilities of health care personnel implementing material, women, neonatal and child health at national, provincial, district and facility level.

2.3 The Aim of Infant and young child feeding Policy

The aim of the policy was achieved through the following objectives:

- ✳ To provide relevant and accurate information on appropriate infant and young

child feeding, including in the context of HIV,

- ❄ To enable health care workers to support pregnant women and lactating mothers of infants and young children through implementation of the ten steps to successful breastfeeding (DoH, 2016).

2.4 Policy Statement on Infant and Young Child Feeding

2.4.1 Antenatal Care (ANC)

Antenatal breastfeeding education and support have shown to improve the rates of EBF (Bodo, 2014). Mothers should be prepared for breastfeeding before delivery by getting good prenatal care. During the antenatal period, mothers should be equipped with knowledge and skills on how to breastfeed and the benefits of EBF. Health care personnel should promote and encourage women to exclusively breastfeed their infants for the first six months and not recommend formula feeding as an alternative to breastfeeding unless there are legitimate medical reasons to do so (DoH, 2016).

2.4.2 Labour and Delivery

During delivery, health care workers should encourage and support labour and birth practices to support early breastfeeding. It is their responsibility to facilitate and support skin-to-skin contact and early initiation of breastfeeding. Health care worker must postpone all routine neonatal procedures that are not lifesaving for example washing, place baby skin-to-skin with mothers immediately following birth for at least an hour to facilitate early initiation of breastfeeding. Lactating mothers must be supported to decrease the risk of maternal haemorrhage, newborn hypoglycaemia and increase EBF. They should be offered the support necessary to acquire the skills of correct positioning and attachment of their infants for optimal breastfeeding (DoH,

2008).

2.4.3 Immediate Postnatal Care

Health care workers should encourage room-in throughout the day and night to ensure frequent feeding unless medically contraindicated. During this period, mothers should be supported to breastfeed successfully. During postnatal care, health care workers should promote and support EBF; make sure that mothers understand the risk associated with mixed feeding; the importance of EBF should be emphasized; upon discharge, mothers should be provided with the information where to get continued infant feeding support (WHO, 2018).

2.4.4 On-Going Infant and Young Child Feeding Support

Efforts to extend breastfeeding include the continued support from health care workers, peers, family and the creation of an enabling breastfeeding-friendly friendly environmental in a range of settings that include workplaces, child care and public spaces and the broader community (WHO, 2013).

2.4.5 At Primary Health Care Level

During postnatal care, health care workers should do a follow-up to assess the mother and her infant within six days of discharge to review feeding practices, check breast health, and provide general support. Lactating mothers should be supported within three days after delivery. During subsequent visit, health care workers should reinforce EBF for the first six months. At every visit, health care workers must assess mothers regarding feeding practices and discourage mothers from introducing other foods and fluids before six months and to promote appropriate complementary feeding

from six months of age. Health care workers should also provide additional counselling sessions when the child is sick and when the mothers return to work or school (DoH, 2013).

2.4.6 Breastfeeding at Workplaces

To promote EBF and continued breastfeeding beyond six months, a breastfeeding-supportive workplace is needed when mothers return to work. Workplaces should adopt a workplace breastfeeding policy that meets the needs of employees while also considering workplace conditions (WHO ,2014). The policy should include the following:

- ❄ A designated area with adequate hygienic conditions at or near the workplace for breastfeeding employees that allows them to express in privacy and comfort and store their breastmilk;
- ❄ breastfeeding/breastmilk expression may need to be negotiated between the employer and an employee that takes account of both employee and organizational needs;
- ❄ Breastfeeding/breast milk expression breaks with regard to their frequency may need to be negotiated between the employer and an employee that takes account of both employee and organizational needs;
- ❄ Establishment of child care at or near the workplace should be considered; Awareness should be raised about the benefits for both the employees and employers; Supervisors and managers should offer breastfeeding employees

the necessary support if needed.

2.4.7 Infant and Young Child Feeding at Community Level

All lactating mothers, community/family of infants and young children need support with feeding practices. At the community level, breastfeeding promotion, support and protection should be a key component of the work of community health workers and PHC teams. During outreach visits, feeding practices should be assessed and support should be provided. Health care workers at PHC facilities should assist with the establishment of support groups. Community support systems should assist mothers with breastfeeding techniques to ensure EBF (WHO, 2013).

2.4.8 Infants and Young Children Feeding in Exceptionally Difficult Circumstances

Special attention and practical support should be given for feeding infants and young children in exceptionally difficult circumstances. Health care workers should have the necessary skills required for supporting feeding of low birth weights and premature infants. Early initiation of breastfeeding and Kangaroo Mother Care (KMC) should be promoted and supported. The emotional and social well-being of these mothers should be supported during their stay in hospital. These mothers may exhibit symptoms of depression, especially during the acute phase of the infant's hospitalization. If support is not provided, breast milk production can be compromised.

All mothers of preterm infants should be counselled and supported expressing their own breast milk for feeding their infants. Expression should ideally be initiated within three hours of delivery so that infants get the benefits of feeding colostrum; this would ensure that the infant is exclusively breastfed and helps in maintaining lactation

(WHO, 2013). Health care personnel should discourage the use of dummies or artificial teats and feeding bottles and show mothers how to cup feed their infant with an open-rimmed cup. Should hospitalization of the breastfeeding mother or infant be necessary, every effort should be made to maintain EBF. Have lodger facilities for breastfeeding mothers; Support and promote the use of mother's own expressed breast milk (EBM) or facility based human milk banking if the mother cannot lodge. Health care workers must assist hospitalized breastfeeding mothers to continue breastfeeding unless their medical condition or medication precludes breastfeeding (Kaaluu, 2019) In the event of an emergency, including natural or human-induced disasters, floods and droughts, as far as possible, mothers should never be separated from their children; EBF for infants under six months and sustained breastfeeding until two years and beyond should be supported and promoted (DoH, 2013).

2.5 Legislation and Approaches Related to Breastfeeding

Worldwide, many governments have taken important measures towards promoting EBF through the following legislations:

2.5.1 International Code of Breastmilk Substitutes

Marketing of breast milk substitutes creates barriers to breastfeeding. Studies show that these tactics reduce breastfeeding rates, putting both children's and mothers' health at risk (WHO, 2014). Consequently, countering this industry's marketing practices and promoting the benefits of breastfeeding are top advocacy priorities (Piwoz, 2015). In 1981, the International Code of Marketing of Breastmilk Substitutes was adopted to protect families from the industry's aggressive marketing tactics. The Code seeks to prohibit all advertising and other forms of promotion of breast milk

substitutes, bottles, and teats, either to health care services or to the public (WHO, UNICEF, 2016).

Since its adoption, the Code has been regularly updated by WHA resolutions, which have addressed new scientific evidence on breastfeeding and the breast milk substitutes industry's new products and promotional tactics. When the Code is successfully implemented, it protects families from the misinformation and commercial pressures that can dissuade women from breastfeeding, hence improving the rate of EBF (Yeong, 2014).

The code encourages the dissemination of accurate information about the value of breastfeeding and its benefits as a tool for early childhood development, brain development and healthy families; increase investments in breastfeeding and funding to implement the Code through national, legally-enforceable regulations with independent monitoring mechanisms and deterrent sanctions and advocate with the health care workers to increase dissemination of the Code and improve capacity development so that all health workers know their obligation and avoid being used to promote products made by the Breast milk Substitutes industry (WHO;UNICEF, 2016).

In South Africa, the government is promoting and protecting breastfeeding in the hope of decrease South Africa's alarming infant mortality rates (WHO, 2018). The code is not forcing the lactating mothers to breastfeed, but is placing a ban on advertising and promotion of breast milk substitutes so that lactating mothers do not feel undue pressure to formula feed. Together with this, it is also hoped that through this

legislative act, mothers who are formula feeding have access to correct and objective information on how to prepare the formula and feed it to their babies in a safe manner (DoH, 2012).

2.5.2 The Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding

The declaration was produced and adopted by participants at the WHO/UNICEF policymakers' meeting on breastfeeding in the year 1990: As a global initiative, the declaration recognizes that breastfeeding is a unique process that: provides ideal nutrition for infants, and contributes to their healthy growth and development; provides social and economic benefits to the family and nation, and recent research has found that these benefits increase, with increased exclusiveness of breastfeeding and duration of breastfeeding with complementary foods (DoH, 2014).

As a global goal for optimal maternal, and child health and nutrition, all women should be enabled to practice EBF, and all infants should be exclusively breastfed on breast milk from birth to six months of age. Thereafter, children should continue to be breastfed while receiving appropriate and adequate complementary foods, up to two years of age or beyond. Attainment of the goal requires the reinforcement of a breastfeeding culture, and its vigorous defence against incursions of a bottle-feeding culture. Efforts should be made to increase women confidence in their ability to breastfeed. Obstacles to breastfeeding within the health system, the workplace and the community must be eliminated (DoH, 2014).

Since the adoption of the original Innocenti Declaration, remarkable progress has been made in improving infant and young child feeding practices worldwide.

Nevertheless, inappropriate feeding practices, sub-optimal or no breastfeeding and inadequate complementary feeding remain the greatest threats to child health and survival globally. Improved breastfeeding alone could save the lives of more than 3,500 children every day, more than any other preventive intervention (Galtry, 2015). Achieving this vision requires an intervention programme to arrive at the highest attainable standard of health and development for infants and young children, which is the recognized right of every child.

The targets of the 1990 Innocenti Declaration remain the foundation for action. While remarkable progress has been made, much more needs to be done, therefore this Call for Action was issued to: Empower women in their own right, and as mothers and providers of breastfeeding support and information to other women; Support breastfeeding as the norm for feeding infants and young children; Highlight the risks of artificial feeding and the implications for health and development throughout the life course; Ensure the health and nutritional status of women throughout all stages of life; Protect breastfeeding in emergencies, including by supporting uninterrupted breastfeeding and appropriate complementary feeding, and avoiding general distribution of breast-milk substitutes; Implement the HIV and Infant Feeding Framework for Priority Action, including protecting, promoting and supporting breastfeeding for the general population while providing counselling and support for HIV-positive women (WHO ,2015).

2.5.3 Baby- Friendly Hospital Initiative

Following the publication of the Innocenti Declaration in 1990, WHO and UNICEF launched the Baby-Friendly Hospital Initiative (BFHI) to help motivate birthing facilities

worldwide to implement the Ten Steps to Successful Breastfeeding. The Ten Steps summarize a package of policies and procedures that facilities providing maternity and postnatal services should implement to support breastfeeding. WHO has called upon all facilities providing maternity services to implement the ten steps. The implementation guidance for BFHI emphasizes strategies to scale up to universal coverage and ensure sustainability over time. The guidance for BFHI focuses on improving and promoting breastfeeding more fully in the health care system, to ensure that all facilities in a country implement the ten steps (DoH, 2014).

Health care facilities which offers maternity services facilities are encouraged to fulfil key responsibilities through a national BFHI programme: Discuss the importance and management of breastfeeding with pregnant women and their families; Facilitate skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth; Support mothers to initiate and maintain breastfeeding and manage common difficulties; Do not provide breastfed infants with any food or fluids other than breast milk, unless medically indicated; Enable mothers and their infants to remain together and to practice rooming-in 24 hours a day; Support mothers to recognize and respond to their infants cues for feeding; Counsel mothers on the use and risks of feeding bottles, teats and pacifiers and coordinate discharge so that parents and their infants have timely access to ongoing support and care (WHO, 2018).

The BFHI was introduced globally to help educate about breastfeeding practices among mothers. Some studies in Nigeria have shown that mothers who delivered in health institutions designated as Baby Friendly are more likely to practice EBF (WHO, 2014). Another study in South West Nigeria showed that mothers with knowledge of

BFHI but no contact with BFHI designated hospitals had significantly fewer incidents of EBF compared to those with knowledge and contact with a BFHI designated hospital. WHO and UNICEF issued new ten-step guidance to increase support for breastfeeding in health facilities that provide maternity and newborn services.

The new implementation guidance is intended for all those who set policy for or offer care to pregnant women, families and infants, government, national managers of maternal and child health programmes in general and of breastfeeding. BFHI related programmes; and health-facility managers at different levels (facility directors' medical directors, chiefs of maternity and neonatal wards). The documents present the first revision of the ten steps since 1989. (WHO, 2014).

The steps are subdivided into the institutional procedures necessary to ensure that care is delivered consistently and ethically, and standard for individual care of mothers and infants' full application of the international code of marketing of breast milk substitutes and relevant word. Health Assembly resolutions have been incorporated into steps on infant feeding policies (WHO, 2018). However, not all birthing facilities in South Africa are accredited BFHI.

2.5.4 Prevention of Mother-to-Child Transmission

Preventing the transmission of HIV from mothers to their children is a vital intervention in preventing the spread of HIV. Because HIV transmission can happen during pregnancy, labour and delivery and through unsafe breastfeeding, prevention of mother-to child-transmission (PMTCT) of HIV must begin early in pregnancy and continue until the child stops breastfeeding practises WHO, 2014). PMTCT promote

EBF because it further stipulated that, in the case where the child is HIV infected, breastfeeding is to be continued. The recommendation is that, all known HIV exposed infant that is if the mother is enrolled in PMTCT programme. Deoxyribonucleic acid-polymerase (DNA-PCR) testing should done to the infant at four-six weeks of age or first visit to diagnose HIV, when found reactive that is child is HIV-positive, the child will start with ART while EBF is continued (WHO, 2015).

South Africa has the largest ART programme in the world, with over 2.7 million people on treatment in 2013 UNAIDS (2013). Since its conception, the PMTCT programme is doing well in the reduction in vertical transmission. South Africa is justifiably proud of this success. However, the history of PMTCT and ART programmes in South Africa has been fraught with delays and political intervention. Now, a decade later, HIV treatment and prevention programme has been completely transformed. South Africa is implementing the latest WHO guidelines which have expanded access to treatment for both pregnant women and all other adults (Burton, Giddy & Stinson, 2015). All birthing facilities in SA offers PMTCT services to pregnant and lactating mothers.

2.5.5 Tshwane Declaration

Political leaders held a meeting concerned about the rate of Infant and child mortality. South Africa, especially EBF rates remain very low; Breastfeeding practices have been undermined by aggressive promotion and marketing of formula feeds, social and cultural perceptions and the distribution of formula milk in the past to prevent mother to child transmission of HIV; Formula feeding which is very frequently practiced by mothers in South Africa, increases the risk of death from diarrhoea, pneumonia and

malnutrition (DoH, 2013). And noting that: Overwhelming scientific evidence demonstrates the benefits of EBF and continued breastfeeding for all children, including those that are HIV exposed and HIV-positive; Promotion, protection and support of breastfeeding requires commitment and action from all stakeholders including government and legislators, community leaders, traditional leaders, civil society, health care workers and managers, researchers, private sector, employer, women' sectors and every citizen (WHO,2016). The Primary Health Care Re-Engineering Initiative by government provide an excellent opportunity to support breastfeeding through strengthening of the district health system, the re-introduction of a school health programme, establishment of ward based health teams and experts (DoH ,2013). South Africa specifically resolves to: Declare itself as a country that actively promotes, protects and support breastfeeding, and act to demonstrate this commitment. Adopt the 2010 WHO guidelines on HIV and infant feeding, to recommend that all HIV infected mothers should breastfeed their infants and receive anti-retroviral drugs to prevent HIV transmission to their children (Saka-Jairus, 2012).

Government commits to providing resources to promote, protect and support breastfeeding including updated guidelines on HIV and infant feeding (UNIAIDS ,2013). Review legislation regarding maternity conditions for working mothers to protect and extend maternity leave. Provide comprehensive services to ensure that all mothers are supported to exclusively breastfeed their infants for six months and thereafter to give appropriate complementary foods and continue breastfeeding up to two years of age and beyond. Implement community-based interventions and support as part of the continuum of care with facility-based services to promote, protect and

support breastfeeding. Support continued research, monitoring and evaluating to inform policy development and strengthen implementation (DoH, 2014).

2.5.6 Global Strategy for Infant and Young Child Feeding Policy

WHO and UNICEF developed the Global Strategy for IYCF in (2014), whose aim is to improve through optimal feeding the nutritional status, growth and development, health and thus the very survival of infants and young children. The Global Strategy's specific objectives are: To raise awareness of the main problems affecting infant and young child feeding, identify approaches to their solution, and provide a framework of essential interventions; to increase the commitment of governments, international organizations and other concerned parties for optimal feeding practices for infants and young children; to create an environment that will enable mothers, families and other caregivers in all circumstances to make and implement informed choices about optimal feeding practices for infants and young children (WHO/UNICEF, 2014).

The strategy is intended as a guide for action; it identifies interventions with a proven positive impact, it emphasizes providing mothers and families the support they need to carry out their crucial roles, and it explicitly defines the obligations and responsibilities in this regard of governments, international organizations and other concerned parties. Everyone concerned should move swiftly and deliberately to give tangible effect to the Global Strategy's vital aim and practical objectives to help make the world a truly fit environment where all children can thrive and achieve their full potential (WHO, 2015).

Apparently, the efforts to promote EBF will have an impact over time. However, a

survey done in 2014 showed that EBF rates remains very low (13%) in Nigeria (Okafor, Olatona & Olufemi, 2014). Successful implementation of the ten steps has shown to improve the rates of EBF and prolong breastfeeding duration beyond discharge from a hospital or facility (Brittin, 2015). In Cuba, where 49 of the country's 56 hospitals and maternity facilities are baby friendly, the rate of EBF at four months almost tripled in six years, from 25% in 1990 to 72% in 1996. In the first two years of EBF implementation at the central hospital of Libreville in Gabon, cases of neonatal diarrhoea fell by 15%, diarrhoeal dehydration declined by 14% and mortality fell by 8% (Murielle & Megnier-Mbo, 2016), this showcased that breast milk has antibodies that fight microorganisms and prevent diseases such as gastro-enterities and no growth deficits have been demonstrated among infants either in developed or developing countries who are exclusively breastfed for six months (Adisasmita, Maemun, Sari, Ritanugraini & Choirunisa, 2016).

Despite strategies in place worldwide to promote, support and improve breastfeeding, the rate of breastfeeding remains low (WHO, 2014). Mothers tend to discontinue with EBF after discharge from birthing facilities, the reasons indicated for discontinuation included sore nipples, inadequate milk supply and the perception that the infant was not satisfied by breastfeeding. Working mothers are likely to experience challenges when they return to work, they discontinue EBF (Wu & Wu, 2015).

Breastfeeding support for working and students' mothers is necessary to assist them with accurate information about EBM and lactation break. Additionally, health care workers can be an unhelpful people of breastfeeding support when they are not adequately educated in breastfeeding best practices and provide support. This

concludes that lack of knowledge regarding EBF practices by health care workers is one of the challenges.

2.6. Implementation of EBF Worldwide

Countries around the world implemented strategies to promote EBF. Brazilian study with mothers of an infant less than one-year-old attending immunization clinics found that health education on the benefits of breastfeeding was associated with a higher prevalence of EBF among infants less than four months and among infants less than one year (Venancio, Saldiva, Escuder & Giuglian, 2012). Consistent with these findings, the national immunization campaign Brazilian survey found that health education during ANC was associated with timely breastfeeding initiation and longer EBF duration (Venancio *et al.*, 2012). Also in Brazil, the duration of EBF increased by one-month post counselling (Dias de Olivier, Giugilian, Espirito Santo & Nunens, 2014).

Another study conducted in Brazil also targeting women with infants less than one-year-old attending immunization clinics, documented that women who breastfed their infants exclusively for six months and continued to two years were less likely to self-report having had experienced mastitis (Perez-Escamilla, Martinez & Segura-Perez, 2016), thereby confirming that breastfeeding is also beneficial to the mothers. A Brazilian study by Perez-Escamilla (2016) also indicates that knowledge on EBF by maternity staff led to improvements in adherence to some of the ten steps, early skin-to-skin contact, breastfeeding positioning support and not offering supplements or pacifiers and to EBF. This study found a positive adjustment association of EBF

implementation in one hospital with EBF duration and breastfeeding continuation at four months postpartum. This Brazilian study also found a positive association of awareness of the benefits of breastfeeding with increased EBF and duration.

A study conducted in the USA, found a greater likelihood of breastfeeding initiative within an hour of birth and a lower likelihood of in-hospital formula supplementation, in this study, breastfeeding duration was longer among those not receiving in-hospital supplementation, not given formula on discharge and rooming-in of time (Stoll, Hansen & Bell, 2015).

In Chile EBF rates at six months increased from 4% to 40% post Peer counselling intervention (Horta, Loret de Mola & Victoria, 2015). There is strong evidence that effective implementation of EBF increases breastfeeding duration where initiation rates are low. Chilean women attending a postnatal outpatient breastfeeding support clinic had higher EBF rates at six months and a lower likelihood of weaning from the breast by six months compared with their counterparts (Condon *et al.*, 2015).

In Cuba, EBF rates at six months rose from 40% to 74% following peer counselling. Morrow and Chantry (2013) introduced baby-friendly practices into a Neonatal Intensive Care Unit (NICU) at a US hospital experiencing low initiation rates, they observed a greater proportion of NICU babies being exclusively breastfed two weeks' postpartum post breastfeeding mothers support group.

A UK study involving the training of home visiting staff in primary care trust found that the likelihood of breastfeeding initiation and EBF at eight weeks postpartum,

significantly higher in the year following the implementation of the intervention (Condon, Rhodes, Warren, Withhall & Tapp, 2015). A study conducted in Italian hospitals found a positive association between EBF implementation, EBF at hospital discharge, EBF at three months and at six months (Cattaneo & Buzzetti, 2001).

A national study conducted in Croatia found that EBF rate increased even further after community-based support groups were introduced as part of the national breastfeeding programme strategy. A more recent study conducted in Croatia found that exposing maternity staff to the 20 hours UNICEF /WHO training led to greater adherence to implementation of EBF (Rosin & Zakarija-Grkovic, 2016). The intervention increased with longer-term benefits in breastfeeding outcomes.

Russian women had a higher likelihood of the infant receiving infant formula supplement (Perez-Escamilla *et al.*, 2016), this promotes mixed feeding before six months. A national cross-sectional chart review conducted in the Czech Republic found the higher likelihood of EBF at the time of hospital discharge, however, women discontinue after discharge.

EBF does not appear to be an area of great concern in Australia. It is a high-income country where initiation of breastfeeding is comparatively high, with between 83% and 93%. This differs from other high-income countries such as the United States of America, where initiation of EBF is historically low. Duration of breastfeeding is short, with only 27% of mothers exclusively breastfeeding their child at four months and 5% exclusively breastfeeding at six months postpartum (Atchan, Foureur & Davis, 2011). In Australia, postpartum stays of six-seven days represent a small proportion of all

postpartum stays, with stays in public hospitals usually not exceeding 48% (Lawrence & Lawrence, 2017). Thus, it could be argued that changes to hospital practices in Australia would be less likely to influence EBF duration than changes to hospital practices in Belarus.

The extent of changes to hospital practices in Australia is likely to be less drastic meaning that the significant changes in EBF rates that occurred in Belarus were generally six-seven days meaning that hospital practices were likely to have a major influence on the establishment of breastfeeding. Despite strategies aimed at increasing EBF, Australia has one of the lowest six-month EBF rates in the developed world (Charlick, McKellar Fielder, & Pincombe, 2015), EBF rates were reported at three and six months postpartum. After adjusting for differences in breastfeeding initiation, EBF rates in the northern and central region hospitals improved at both three months (65% vs 49%) and six months postpartum (18% vs 5%). In the southern region hospitals improvements in adjusted EBF rates were much more modest (Three months 61% vs 56%, six months 6% vs 3%) (WHO, 2016).

Examination of the literature on breastfeeding duration reveals that most of the available evidence has been collected from context in which initiation of EBF is low below 50%. In Iran, for example, rates of EBF at four months postpartum were 10%. In China, BFHI implementation increased EBF rates at four months postpartum from 10% to 48% in urban areas and from 29% to 68% in rural areas. (Chen, Cheng & Pan, 2017).

In a hospital in India, women delivering vaginally began breastfeeding earlier

compared with women who deliver via caesarean section; however, they discontinue EBF after discharged from birthing facilities (Dasgupta, Bhattacharya, Das, Chowdhury & Saha, 2015). Breastfeeding duration has been examined in two countries in the East Asian region. In Taiwan, there is a high breastfeeding initiation rate (estimated rates of 80-90%, although EBF is much lower (approximately 30%). Examination of data presented suggests that, while EBF implementation increased initiation, after adjusting for differences in initiation rates across hospitals, there is little evidence on breastfeeding duration at two weeks, one month, or two months postpartum (Ho & McGrath, 2016). A study conducted in China hospital covering the first 24 months postpartum found that individual support and group education was associated with an increase in breastfeeding duration (Guo, Wang, Liao & Huang, 2016).

Similarly, Wang, Hsu, Gau, Chen & Li (2016) found no difference between Taiwanese hospitals in breastfeeding rates at one month's postpartum after adjusting for improvements in initiation thus EBF implementation. However, Italy represents a high-income country with a modern health care system and good infrastructure, EBF implementation rates vary between 66% and 99%, northern region of the country having higher rates. Additionally, much like other developed countries, there is a rapid decrease in EBF duration to six months postpartum (WHO, 2016).

In a hospital in India, women delivering vaginally began breastfeeding earlier compared with women who deliver via caesarean section; however, they discontinue EBF after discharged from birthing facilities (Dasgupta, Bhattacharya, Das, Chowdhury & Saha, 2015).

Giving birth in a BFH in Nigeria was associated with a higher likelihood of having initiated breastfeeding with 30min postpartum and of EBF at the time of the survey (Adewuyi & Adefemi, 2017).

2.7 Implementation of EBF in South Africa

There are several strategies in place that influence EBF implementation such as:

- ❖ **A Voluntary Organization, La Leche League South Africa:** provides information, encouragement and support to women who want to breastfeed, through their unique mother to mother support, network La Leche League South Africa is active on governmental and NGO bodies working for the promotion and protection of breastfeeding in South Africa: It also facilitates UNICEF-designed lactation management training workshops and a peer-counselling programme for volunteers largely from disadvantaged communities to work as breastfeeding counsellors (La Leche League, 2015).

- ❖ **Breastfeeding Peer-Counselling Programme (BPCP):** This is a non-profit organization funded to place Breastfeeding Peer Counsellors (BFPCs) at midwife obstetric units and basic antenatal care sites in the Metropole district. BFPC are capacitated to deliver peer-to-peer counselling and are trained in a 20-hour or updated national breastfeeding course. The BFPCs are tasked with educating pregnant women on the infant-feeding educational package during ANC, supporting and educating postnatal women on breastfeeding and its management. Part of the BFPCs' function is also to foster the establishment of community support groups, but this has been difficult to implement, and they

are consequently facility-based counsellors (WHO, 2013).

- ❁ **Educating Community Health Workers (CHWs):** CHWs are trained in infant feeding as part of the implementation of EBF to foster support for mothers once they have been discharged from the birthing unit. Messages around IYCF are standardized in both facility-based programmes and community-based programmes (Bodo, 2015).
- ❁ **Media Messages:** The Western Cape has standardized key message through provincial documents, initiatives and policies. Lactation consultants: Some units are staffed with lactation consultants who volunteer in the birthing units, but this is not uniform through the province. The Western Cape DoH breastfeeding policy has been published and advocates for maternity legislation for women. Health facilities are voluntarily establishing comfort rooms for staff members that can be utilized as a space to express breastmilk (Western Cape Government, 2017).

Some of the strategies that are in place to promote EBF and breastfeeding till two years are Infant feeding counselling guidelines to guide counsellors or health care workers in supporting mothers to make informed infant feeding choices; Infant formula on prescription per set criteria. This has worked to reduce the use of infant formula by strengthening the criteria and supporting informed decision-making (DoH, 2014).

In Mpumalanga Province, early initiation of breastfeeding and EBF were found more often in a sub-district where all public health maternity facilities were Baby-Friendly than in a sub-district where none of the facilities was baby-friendly (Siziba et al., 2015),

Non-baby friendly facilities include those facilities which are not credited as BFHI institutions but providing maternity services. EBF has been implemented in 94% of the public birthing units in Western Cape Province, however the rate is still low (Zisiba et al., 2015)

The Western Cape Provincial Department has created sentinel sites for the breast-milk banks and drafted guidelines for the management of expressed breastmilk (Siziba et al., 2015). Health facilities should voluntarily be establishing comfort rooms for staff members that can be utilized as a space to express breast milk.

In Limpopo Province, Community health care workers were trained to be mentor-mothers to assist HIV mothers to maintain EBF. They teach mothers about the benefits of EBF. Limpopo Province has trained over 100 health workers and 200 home-based carers on the topic of breastfeeding thereby increasing their capacity to provide quality infant health care (Press release, 2012), but complementary food is given as early as from 0-3 months.

2.8 Benefits of Breastfeeding

Breastfeeding is important for child health and survival because it has benefits for both mother and infant (Table 2.2). Breastfeeding has so many benefits for both mother and a baby. Breastmilk contains all necessary nutrients for the development of a baby. It is having antibodies that fight after delivery. Breastfeeding can decrease post partum depression (Clarke, 2014).

Because of those benefits, the WHO and UNICEF recommend that mothers put their

babies on their breasts within half an hour of birth, breastfeeding infants exclusively for the first six months and continue to breastfeed for two years and beyond, together with appropriate nutrition, adequate knowledge about the importance of EBF and good time for the introduction of solid food (WHO, 2016). There has been enough evidence of the significant impact of early initiation of breastfeeding, preferably within the first hour after birth, on reducing overall neonatal mortality (Harris, Haddad & Grunts, 2014).

2.9 Challenges with the Implementation of EBF

There are several challenges that influence EBF. Traditional and cultural factors are strong influencers of breastfeeding in SA. In the North-West Province, per Siziba et al., (2015) reported that young mothers are very much concerned about the possibility of breastfeeding damaging their bodies, making them “too slim” and flattening their breast. Some women wanted to breastfeed to lose weight.

Others did not want to breastfeed so that they would not lose weight. Young mothers are very concerns about body shape. Women who had not achieved their desired weight loss from breastfeeding chose not to breastfeed. Across all age groups, women also claimed to have insufficient breast milk to breastfeeding exclusively for six months (Brittin, 2015).

Challenges such as lack of resources, resistance to change and barriers to breastfeeding training for staff, lack of formal and informal network engagement between different professional groups and key partner agencies in the community to support continued breastfeeding after hospital discharge as well as the availability and

accessibility of community-based breastfeeding support services for example telephone hotlines and peer support groups (Siziba et al., 2015).

Table 2.2: The benefits of breastfeeding for the infant, mother, society and employer related to its role as a key child development and survival strategy (WHO, 2014)

Infant	Mother	Family and Society	Employer
Breast milk is the most natural perfect food and contains all the vitamins, minerals and hydration required for healthy growth and neurological development of the infant.	<p>Reduced direct and indirect cost to the mother</p> <p>Breastfeeding does not require any equipment and is free.</p> <p>Reduced need for trips to the health facility and the costs incurred by ill health.</p>	Reduced financial burden on the family due to low costs associated with breastfeeding.	When a supportive policy in place in the workplace, mothers may return to work sooner.
<p>Colostrum provides immunoglobulin's in the first few days of life, which is valuable in preventing many infections such as:</p> <ul style="list-style-type: none"> • Otitis media • Urinary tract infections 	<p>Reduced incidence of:</p> <ul style="list-style-type: none"> • Breast cancer • Ovarian cancer • Rheumatoid arthritis • Osteoporosis <p>These benefits go beyond the breastfeeding period.</p>	<p>Happier and healthier mother and infant.</p> <p>Less stress on father and extended family.</p>	Less absenteeism due to infant ill-health.
<p>Reduced incidence of many life-threatening childhood illnesses and conditions such as:</p> <ul style="list-style-type: none"> • Gastroenteritis • Diarrhoeal disease • Asthma • Diabetes • Sudden infant death syndrome • Childhood leukaemia 	Breastfeeding stimulates oxytocin which contracts the uterus to stem post-partum bleeding.	Reduced economic cost due to health costs associated with infant formula feeding-related illnesses.	Happier more productive employee.

/Continued

Table 2.2: The benefits of breastfeeding for the infant, mother, society and employer related to its role as a key child development and survival strategy (WHO, 2014) (*Continued*)

Infant	Mother	Family and Society	Employer
Bonding between mother and baby is promoted more often with breastfeeding	Convenient the correct temperature and available always. Hormonal changes associated with breastfeeding will promote a nurturing and protective instinct.	Reduction in infant mortality rate. Reduction in child mortality rate.	Enhances employee wellness and attitude towards the work environment.
Breast milk is easier to digest.	Regain pre-pregnancy body weight more quickly.	Environmentally friendly.	
No risk of contamination of milk powder or through the use of bottles.	Delays onset of menstruation so can assist with birth spacing.	Role modelling for a healthy future generation.	
Breast milk provides immune-protective factors which help to reduce both the rates and severity of infections in children up until 2 years old.			

2.9.1 Human Resource and Capacity Challenges

According to the WHO (2016), the world requires more than four million doctors and nurses for the provision of quality care (UNICEF, 2014). Alliamoghaddad, Phibbs & Ben (2014) have identified a shortage of human resources for health as one of the primary constraints to scale-up the implementation of EBF. (New Zealand Ministry of Health, 2017).

Considering human resources in strategic planning can help policymakers to identify alterations of staff structures by shifting non-specialized task to other personnel if there are limited specialized staff and to identify other underutilized qualified personnel. This can help to improve performance in terms of time allocated to reach the target of EBF.

The determination of human resource requirements depends on existing structures that may not be optimal for productivity and quality of care (Brittin, 2015). Even in a middle-income country like SA, the health system is struggling to maintain the status of professional nurses in public sectors.

Poor monitoring and management of skill combinations exacerbate the problem. Per WHO (2016), shortage of human capacity is a broader problem that includes implementation of EBF in health care centres. South Africa has 384 nurses and midwives per 100,000 compared to other countries, as shown in Table 2.3.

Table 2.3: Cross-country comparison of nurses per 100, 000 populations (DoH, 2015)

Country	Number of nurses and midwives
1. Australia	1090
2. Brazil	90
3. Greece	350
4. Lesotho	60
5. Mexico	400
6. South Africa	384

In the past, the midwife could return immediately. Shortage of staff is challenging, working time and increased workload are critical, no one wants to carry additional duties (Wieczorek, Schmiel & Thomas Dür, 2015).

2.9.2 Resistance to Change

Per the study conducted in Australia, old patterns have been discovered as a major factor leading to resistance against the required changes (Atchan, Foureur & Davis, 2014). At all sites, this type of resistance rose with the number of years a staff member had worked on the maternity unit, especially among midwives and nurses. They usually want to work like they used to, they resist to change because they considered new policy and strategies such as IYCF policy and BFHI unnecessary. Older health care workers working in maternity units used to work without policies and strategies, they see them as disturbing. But younger midwives are more likely to adopt new practices due to their recent education moreover; young midwives were thought not to have developed work patterns that would impede EBF (Wienzoreck *et al.*, 2015). Therefore, the acceptance of the breastfeeding policy would generate cognitive

dissonance. Some health care workers are concerned that everything they have done in the past has been wrong or poorly carried out Per Alianmoghaddam, Phibbs and Benn (2017), in New Zealand, women spoke about feeling pressured to breastfeed within the health system; however, they acknowledge the effective support that they received from community.

2.9.3 Personal Experiences

Personal experience of health care workers hindered EBF practices, especially their personal experiences with breastfeeding or formula feeding. Health care workers personal experience on breastfeeding is very crucial because those who did not exclusive breastfed their own babies feels that EBF is not necessary and some health care workers recommend formula feeding (Siziba *et al.*, 2015).

2.9.4 Lack of Teamwork

Some members of the multi-disciplinary team, for example, nurses, midwives and doctors indicated that some doctors are more likely to resist or at least were indifferent with respect to the EBF implementation (Wieczorek *et al.*, 2015). A paediatrician spoke about the indifferent position of some colleagues and pointed out that their perception of responsibility was mixed. In contrast to physicians, midwives and nurses are already considered as being responsible for the implementation of EBF, because they mostly directly interact with the women (Kramer & Kakuma, 2015).

2.9.5 Health care Worker's Knowledge Regarding EBF

Findings of the study conducted in Nigeria by Adeyewi (2016) indicated that nurses had the correct knowledge regarding the causes and management of common

breastfeeding problems. The findings show that nurses who had participated in the lactating management course were significantly more knowledgeable about some aspects of EBF; they had more positive attitudes and were more likely to employ correct practices for the promotion of EBF.

At present most health workers are expected to be knowledgeable on the benefits of EBF. Early contact between child and mother, early introduction of breastfeeding, demand feeding and hospital rooming-in are practices in the hospital which will help to enhance initiation and sustenance of breastfeeding (Adewuyi & Adefemi, 2016). Lack of knowledge in health care professionals can impact negatively on EBF when women receive inconsistent, inaccurate and inadequate breastfeeding information (Brittin, 2015).

Many of the barriers to implementing the EBF include the lack of privacy or space to pump or breastfeed, impact of the noisy and stressful environment on feeding and mother-infant contact, lack of access to breast pumps to initiate and maintain lactation, lack of staff expertise in managing breastfeeding for ill or premature infants, the ubiquitous use of bottles and pacifiers for infant feeding and soothing, inadequate antenatal breastfeeding preparation among mothers who unexpectedly delivered prematurely, and maternal focus on infant health status rather than breastfeeding (WHO, 2016).

However, key facilitators of EBF implementation in community health services included the establishment of both formal and informal networks of engagement between different stakeholders in the community to support continued breastfeeding

after hospital discharge, as well as the availability and accessibility of community-based breastfeeding support services for example telephone hotlines and peer support groups. Volunteer-based breastfeeding support such as peer support organizations was particularly valued in light of community health staff shortages; hence mom-connect is in place but EBF remains low (Munjoma, 2014).

2.10 Other factors Related to Implementation of EBF

Factors that potentially facilitate the implementation of EBF include (Figure 2.1): predisposing factors (include knowledge, attitudes, beliefs, personal preferences, existing skills, self-efficacy towards the desired behaviour change; Enabling factors are skills or physical factors such as availability and accessibility of resources, or services that facilitate achievement of motivation to change behaviour.

The opinions and support of those surrounding somebody every day can influence the behaviour and the attitude of the individual. Friend and family can make breastfeeding easier by providing emotional support and relevant personal experiences or make it more difficult by expressing displeasure or behaving in ways that counter breastfeeding success (Victor, Baines, Agho & Dibley, 2013); Reinforcing factors include factors that reward or reinforce the desired behaviour change, including social support, economic reward and changing the social norm.

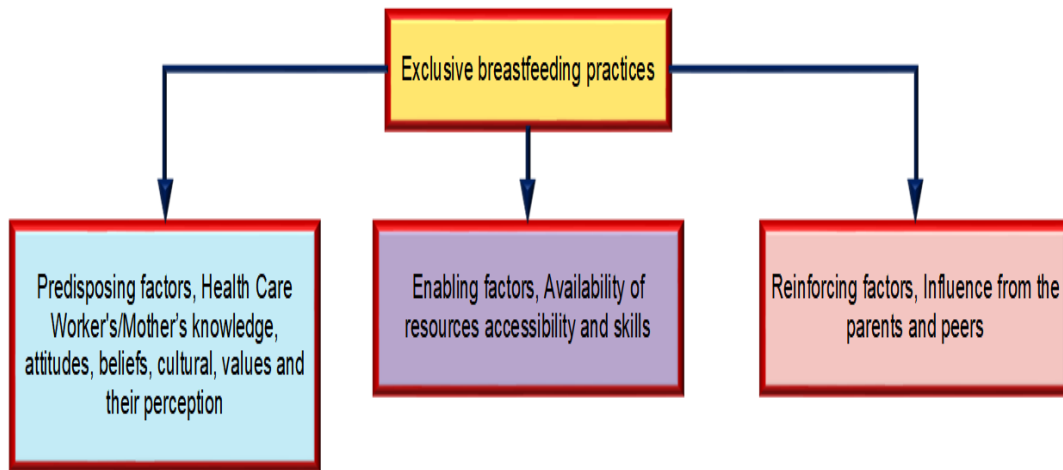


Figure 2.1: Factors associated with EBF (Developed by a researcher Mudau AG)

2.10.1 Predisposing Factors

Predisposing factors include knowledge, attitudes, beliefs, personal preferences, existing skills, self-efficacy towards the desired behaviour change.

2.10.1.1 Cultural Norms

Although several possible explanations may explain these differences, one reason is thought to be the early introduction of solid foods as a cultural norm. Black women in the UK who recently immigrated from either the Caribbean or Africa were more likely to breastfeed at three months postpartum than white women. The same was true of Indian and Bangladeshi mothers at three months, with the highest rate of breastfeeding in black Caribbean women (Pincombe, Thorogood, Tracy and Parman, 2015).

In the Northern Cape, traditional medicines are believed to prepare the baby for dentition and to protect against witchcraft. In Limpopo Province, a traditional dish called Tshiuza, made from maize and roots, and fermented to form a soft sour

porridge is given immediately after birth and promoted by grandparents. This food is believed to provide babies with energy to grow well and to assist them in passing stools since breast milk is believed to be insufficient for infants. In some cultural settings in South Africa, mixed feeding, including complimentary foods begins within one month of birth (Brittin, 2015).

2.10.1.2 Economic Factors

Among women born in the US, women from high economic status are more likely to breastfeed (CDC, 2014). Employment can influence the decision to breastfeed; when either parent was, unemployed or held a lower status occupation, their children were more likely never to have been breastfed (CDC, 2014). The time commitment of EBF is also an economic constraint. The time required per week to breastfeed can be a problem for women who need to spend time doing paid work (Smith & Forrester, 2013). In the US, workplace policy surrounding breastfeeding and parental leave often do not reflect these benefits. In addition, women are often unable to risk the loss of their jobs or loss of income due to EBF adherence, so formula feeding is the best option for them.

Women from all groups that have low economic status, also have low breastfeeding it will make sense (Munjoma, 2015). Low incomes mothers are specifically at risk for undernutrition and high mortality rates amongst their infants because they replace breastmilk with formula. They do so because of lack of supportive environment. Only about 16,5% of low-income mothers breastfed exclusively for six months and continue to two years (Alianmoghaddam, Phibbs & Benn, 2017). Even if low-income mothers exclusively breastfed their infants for six months and continued to one year, their infant

is still at risk because most women delay the first initiation of breastfeeding because of information about the importance of EBF is not well given to the mothers by the health care workers (Egenti, Adamu, Chineke & Adogu, 2018).

2.10.1.3 Ethnicity and Race

Breastfeeding initiation and duration vary by race and ethnicity. Native-born black women had a somewhat higher rate of breastfeeding than white women (Lowest-jones Jefferson, 2015). Immigrant status in the US is a predictor for breastfeeding adherence.

The Hispanic paradox plays a role in the high breastfeeding rates observed among some Hispania and Latina women in the United States. Breastfeeding initiation rates among this population are higher for less acculturated immigrants. Hispanic women who have been in the United States for longer are less likely to breastfeed. More Hispanics are likely to have the same reasons for bottle-feeding as native white women do. The connection that Hispanic women feel to their culture and its values can strongly influence their decision regarding breastfeeding (Lowest Jones-Jefferson, 2015).

In the US, black women are more likely than white women to report that they prefer bottle-feeding to breastfeed, and they are also more likely to be low-income, unmarried and to have lower levels of education. (Lawrance & Lawrance, 2017).

The infant mortality that is directly correlated with poor feeding practice and delayed initiation of breastfeeding is seen in Sub-Saharan Africa (WHO, 2016). Most women

are not aware that absence in breast milk put their babies at risk for serious health problems in the future. Most mothers intend to breastfeed at birth. Many factors can disturb or disrupt this initiation. The information about the importance of EBF is rarely provided by health care workers during their prenatal visits and some health professionals incorrectly believe that due to recent improvements commercially prepared formula is equal to breast milk in terms of its health benefits (The Surgeon Generals' Call to Action to Support Breastfeeding, 2012).

Many hospitals have instituted practices that encourage breastfeeding; a survey was done in the U.S (2012) found that 24% of maternity service was still providing supplements of commercial infant formula as a general practice in the first 48 hours after birth (American academy of paediatrics section on breastfeeding, 2012).

2.10.1.4 Social Factors

Many employed mothers and teenage mothers who were still studying would have loved to breastfeed their babies for the first six months but find it difficult to do at the risk of their jobs. Work is the most common reason for not breastfeeding exclusively for six months and to continue breastfeeding for two years and beyond as teenage and working mothers discontinue EBF because they need to return to work or school (Benjamin, 2012). In 2012 save the children examined maternity leave laws, ranking 36 industrialized countries per their support for breastfeeding. Norway ranked first, while the United States came in last (Benjamin, 2012) Maternity leave in the US differ widely, which guarantees most mothers up to twelve weeks' unpaid leave.

The reason for the lower rate of breastfeeding among African American mothers is

employment. They return to work sooner than white mothers and are more likely to work in unsupportive environments. Although a return to work is associated with early discontinuation, a supportive work environment and schools for teen mothers may encourage mothers to continue breastfeeding (Alianmoghaddan, Phibbs & Benn, 2017).

The mother's employment status can be a barrier to practising EBF especially if maternity leave is less than six months, for example, in South Africa four to six months is recommended for EBF. Due to short maternity leave, 35% of mothers tend to introduce other foods at the age of three months because they should go back to work (Mgongo, Mosha, Uriyo, Msuya & Stray-Pedersen, 2013). Teen moms also tend to discontinue breastfeeding earlier because they should go back to school.

Evidence from the United Arab Emirates also indicates that housewives are more likely to breastfeed exclusively than working mothers (Radwan, 2013). Working mothers in Zimbabwe get 14 weeks' maternity leave in the private sector whilst those in the public sector get 12 weeks plus one-hour breaks for six months. However, in the study that was done in Malawi, the mother's occupation was not a barrier to EBF because their occupations were informal (farming or trading) so they took their children with them and practised EBF (Radwan, 2013).

Public breastfeeding is risking social disapproval, thus discouraging breastfeeding. (Condon, Rhodes, Warren, Withhall & Tapp, 2012). Public breastfeeding is forbidden in some places, not addressed by law in others, and a granted legal right in others. Even given a legal right, some mothers are reluctant to breastfeed in public while

others may object to the practice (Lowerst Jones-Jerferson, 2015). In some public places and workplaces, rooms for mothers to nurse in private have been designated. Many women feel embarrassed and uncomfortable to breastfeed in public. The negative perception of breastfeeding in social settings has led some mothers to feel discomfort when breastfeeding in public (Siziba et al., 2015).

These negative cultural perceptions may encourage teenage mothers to discontinue breastfeeding immediately after discharge from hospitals or clinics. The potential social embarrassment is present in the minds of expecting adolescent mothers and a major factor that influences EBF (Brittin, 2015). Adolescent mother also has conflicts between their wish to resume activities outside of the home in the postnatal period and the baby's need to be fed. Adolescent mothers still has desire to play ith friends.

Lack of knowledge regarding the importance of EBF is one of the reasons for breastfeeding discontinuation. There is a relationship between educational status and breastfeeding. Women of higher educational status usually have higher rates of breastfeeding (Mujoma, 2015). A Nigerian study found that educated mothers were more likely to practice EBF compared to mothers with no schooling (Egenti, Adamu, Chineke & Adogu, 2018). Studies suggest that college-educated women over their thirty are more likely to initiate breastfeeding in comparison to other women who have different levels of educational attainment (WHO, 2016). In contrast, an Ethiopian demographic health survey revealed higher maternal educational status was associated with lower EBF rates (Pincombe et al., 2015). Most of Limpopo women in SA are educated and it will be worth finding out if it influences their decision to exclusively breastfeed (Siziba et al., 2015).

2.10.1.5 Type of delivery

Caesarean section is associated with pain, discomfort and can be a barrier to EBF. Post-delivery, a mother might be feeling pain or dizziness that she is not able to breastfeed. Evidence from Ethiopia suggests that EBF was higher in a mother who had a normal vaginal delivery as opposed to those who had a caesarean section delivery (Seid, Yesuf & Koye, 2013). For mothers who had caesarean section skin-to-skin contact and breastfeeding initiation within half an hour after delivery is not possible. In addition to those findings, another study found that who had a normal delivery were two times more likely to practice EBF than those who had a caesarean section (Dachew & Bifftu, 2014).

2.10.1.6 Mother's HIV Status

A mother's HIV status can play a role in her decision to breastfeed or not. In a study done in Tanzania, most HIV-positive mothers discontinue EBF early, while some did not breastfeed at all (Victor, Baines, Agho & Dibley, 2013). Similarly, in a study done in Kenya, HIV-positive mothers chose infant formula over EBF due to fear of transmitting the virus to the child (Saka-Jairus, 2012), this was observed even after they were advised by the health care workers about the prevention measures that can be taken during breastfeeding.

2.10.1.7 Mother's Marital Status

A husband or a partner is more likely to encourage the mother to exclusively breastfeed their infant (Saka-Jairus, 2012). Partners play a significant role as indicated in Malawi study as they provide financial support; hence the mother has access to the health facility which is a positive determinant of EBF. However, in Ethiopia, married

women or mothers who had partners were two times less likely to practice EBF compared to single mothers (Seid *et al.*, 2013). In the Gambia, a mother who had a husband was more likely to practice EBF, not because of the financial support given by the husband, but because the husband was involved in decision making on infant feeding which is an additional support that single mothers did not have (Mekuria & Edris, 2015).

2.10.1.8 Mother's Age

Teenage pregnancies in Zimbabwe are quite high, and this could have a bearing on the ability of mothers to practice EBF for six months (Ministry of Health & Child Welfare, 2013). Teen mothers discontinue EBF early compared to older mothers. One study found that EBF rates were higher among mothers aged 35-39 compared to those less than 20 years old. Higher rates were also found among 25-34 and 36-45 years old (Dachew & Bifftu, 2014) compared to younger mothers.

In the study conducted in Ethiopia, infants whose mothers were aged 36-45 were 2-8 times more likely to be exclusively breastfed compared to those whose mothers were younger (Dachew & Bifftu, 2014). Adolescence is a risk factor for discontinuing breastfeeding after discharge from the hospitals, although classes, books, and counselling can assist to improve practices. Some women fear that breastfeeding will negatively impact the appearance of their breasts. These various findings from different countries show that determinants of EBF differ from one country to another.

2.10.1.9 Parity

Higher rates of EBF have been observed in mothers who have had at least one child

before as compared to first-time mothers. This association is assumed to be due to the experience and confidence gained on the first child. A study conducted in Nigeria found higher rates of EBF in mothers with two or more children - 57% than first-time mothers (276%) (Alianmoghammad, Phibbs & Benn, 2017). Similarly, a study conducted in America showed a significant association between parity and EBF (Lowest Jones-Jefferson, 2015).

2.10.2 Enabling Factors

Enabling factors are skills or physical factors such as availability and accessibility of resources, or services that facilitate achievement of motivation to change behaviour. Friend and family can make breastfeeding easier by providing emotional support and relevant personal experiences or make it more difficult by expressing displeasure or behaving in ways that counter breastfeeding success (Victoria, Bahl & Barros, 2016). Many women identified the support of a family member, especially one with breastfeeding experience as a key factor in breastfeeding persistence. Family and friends with previous breastfeeding experience were often identified as the primary source of breastfeeding information (Chowdhury, Sinha & Sankar, 2015). The biggest interpersonal challenge to breastfeeding is the negative opinions of family and friends, opposition from the baby's grandmother, typically one who had not breastfed. Disapproval from the paternal grandmother seemed to carry more weight than disapproval from the maternal grandmother.

Many mothers return to work within the first month of their child's life and this transition can increase the challenges related to continuing to breastfeed their infants. Mothers returning to work must discuss their breastfeeding needs, for example, a private place

to pump and scheduling needs, with their supervisors. The potential social embarrassment that working mother face when disclosing personal information in addition to the difficulties of expressing milk at the workplaces can negatively impact a woman's commitments to EBF (Kramer & Kakuma, 2015).

Family, friends and peers are very influential on breastfeeding, not only by the choices they have made when feeding their own infants but also through encouragement and social support. Also, for infants born without complications, the greatest source of breastfeeding has a strong impact on a women's feeding decision. Research has found that both partners or spouses and the baby's maternal grandmother can positively or negatively influence breastfeeding (Adewuyi & Adefemi, 2017).

Even extended family such as grandparents can impact the decision to breastfeed. The individual with the most power in the home has been shown to have the most influence over this behaviour, who has the most power in a home may be determined by social and cultural factors specific to a geographic area or an ethnic group (Mujoma, 2015).

Studies have shown that by the time women are ready to deliver, she has likely decided on the feeding method she will employ. Because the health care provider can have a positive impact on a woman's likelihood of breastfeeding, it is strongly recommended that health care workers discuss the benefits of breastfeeding with expecting mothers during prenatal visits. However, in rural areas where there is a shortage of health care workers, mothers may not have access to these types of conversation. In addition, some health care workers fail to explicitly endorse

breastfeeding or addresses breastfeeding as a lifestyle choice rather than promoting as a health care option (Horta, Loret de Mola & Victoria, 2015). Additionally, not all health care workers have enough knowledge about breastfeeding to assist women who are encountering difficulties. Directly after birth, health care workers, such as lactation consultants, can do several things to improve initial breastfeeding success, such as encouraging skin-to-skin contact to increase successful bonding (Victoria *et al.*, 2015), providing support on positioning and successful latching and sitting with the mother through at least one successful feeding session (Mujoma, 2015).

The advertisement of formula has a negative influence on breastfeeding duration (WHO, 2014). This phenomenon fits with the overall ambivalence many women reported experiencing across health care agencies, as formula gift packages were given to breastfeeding mothers as well as formula-feeding mothers. Community and environment in which an individual had experiences and relationship can influence the initiation and duration of breastfeeding as well. For example, for breastfeeding in a community can send a message that breastfeeding in public is inappropriate behaviour and may deter women from initiating breastfeeding (Brittin, 2012).

A community which embraces and supports breastfeeding mothers can positively influence women to not only initiate breastfeeding but also to continue. support available in their community, and this can include breastfeeding support groups and lactations consultants. Referring women to seek out other women who are or who have breastfed can be an important form of social support and breastfeeding knowledge (Walters *et al.*, 2016).

2.10.3 Reinforcing Factors

Reinforcing factors include factors that reward or reinforce the desired behaviour change, including social support, economic reward and changing the social norm. The impact of breastfeeding duration and exclusivity practices contribute to significant short-and long-term health benefits for both mother and baby (Kramer & Kakuma, 2015). Current professional associations, including the WHO recommend EBF for six months and continued breastfeeding for at least a year (WHO, 2016). In the USA, efforts by professional, government and health and human service organizations to increase breastfeeding rates resulted in increasing initiation rate. Duration and exclusivity remain well below national goals, especially among low-income mothers. (Horta *et al.*, 2013).

Stressful life events may have an impact on cessation of breastfeeding among low-income women. Stressful events during pregnancy negatively affect maternal and infant outcomes, including breastfeeding initiation. The impact may differ by stress type. Stress may interfere with the achievement of the mother's breastfeeding goal (Kaaluu, 2019).

The association of depression, smoking and alcohol use on breastfeeding cessation after adjusted for stress may indicate that breastfeeding serves as a coping mechanism. Some of the strategies that assist women in coping with breastfeeding challenges include, increasing breastfeeding knowledge, relaxing and looking after yourself and mindfulness, positive self-talk, problem-solving and goal setting (Wieczorek *et al.*, 2015).

2.11. Theoretical Framework

The study is guided by the Intervention Mapping (IM) (Bartholomew, Parcel, Gottlib & Fernandez, 2011). The purpose of IM in this study was to provide a framework for effective decision making at each step-in intervention planning, implementation and evaluation (Bartholomew *et al.*, 2011). IM is a series of steps and each step comprised of several tasks (Figure, 2.2).

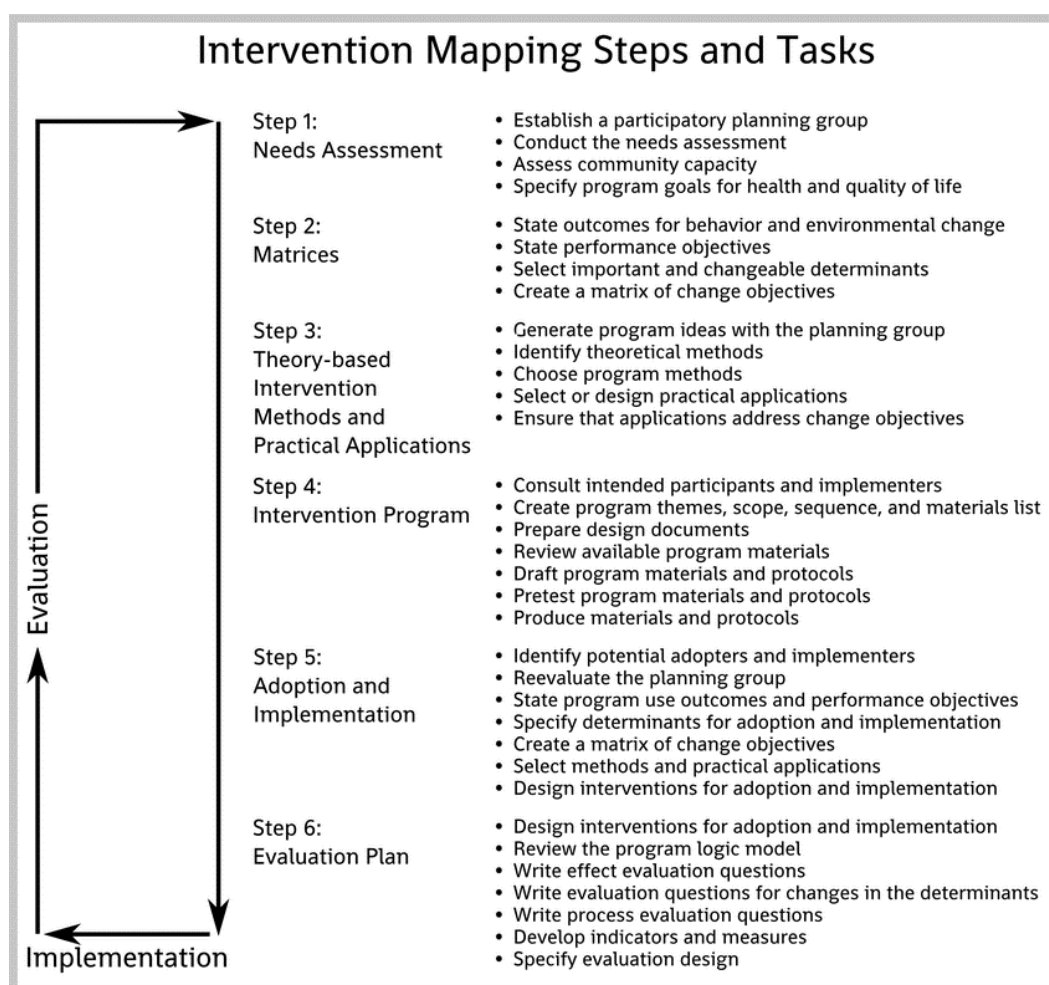


Figure 2.2: Intervention mapping steps and tasks (Bartholomew *et al.*, 2011)

The fundamental steps of the IM process are the following:

- ❄ Needs assessment,
- ❄ Create matrices of change objectives,
- ❄ Select theory-based intervention methods and practical applications,
- ❄ Organize methods and applications, and
- ❄ Sustainability of the programme and generate an evaluation plan.

2.11.1 Phase 1: Needs Assessment

This is the first step of the IM and used the modified Predisposing, Reinforcing, Enabling Constructs in Educational/environmental Diagnosis and Evaluation -Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development (PRECEDE-PROCEED) model (Figure, 2.3). This figure depicts the use of the PRECEDE-PROCEED model in the development of an intervention. The modified PRECEDE model is a comprehensive structure for assessing health needs for designing, implementing, and evaluating health promotion and other public health programmes to meet those needs.

PRECEDE provides the structure for planning a targeted and focused public health programme. PROCEED provides the structure for implementing and evaluating the public health programme. PRECEDE stands for Predisposing, Reinforcing, and Enabling Constructs in Educational Diagnosis and Evaluation. The PRECEDE is the focus of this study to explore the predisposing, reinforcing and enabling factors regarding EBF. The model is applicable to the study as it involves needs assessment

to inform the development of health promotion intervention, implementation and evaluation (Green & Kreuter, 2005). It provides a framework of step by step phases that would help one to plan and implement an intervention.

2.11.2 Phase 2: Development and Validation of the Intervention

This phase aligns with step four of the IM. The diffusion and Innovation Theory (DIT) (Rogers, 2003) guided the plan in the implementation of the intervention or innovation. DIT, in this study, has helped to explain the criteria to be considered when implementing an intervention which will facilitate diffusion in the communities. The diffusion process of DIT include imparting knowledge to the stakeholders, and then they become interested and try to learn more about it, they decide to use the programme and actually start to implement the programme and finally decide to continue using it (Rogers, 2003).

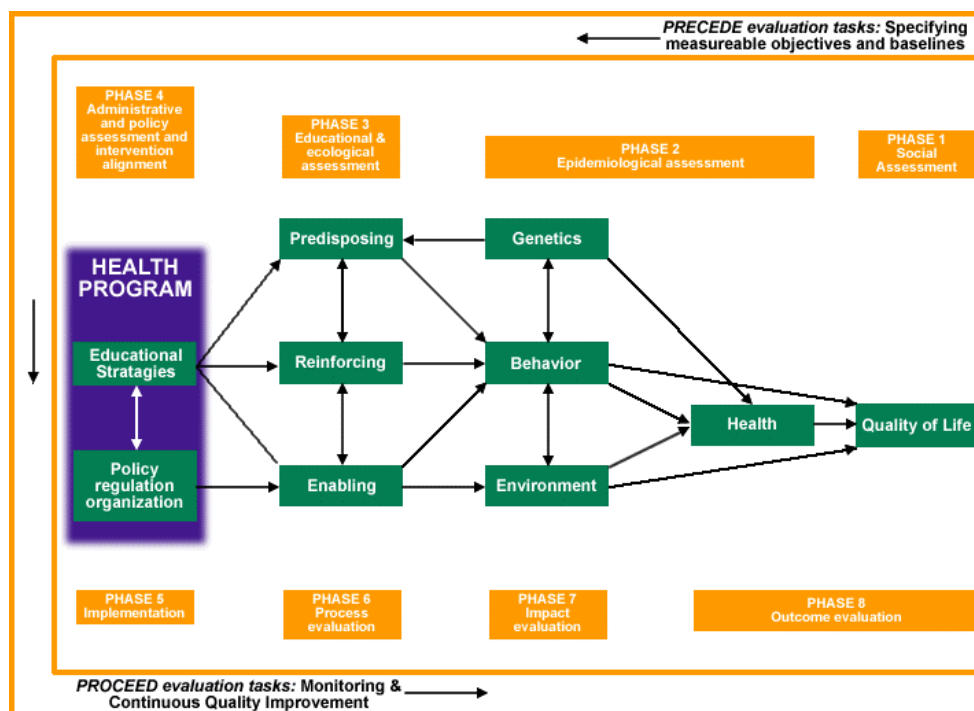


Figure 2.3: PRECEDE-PROCEED framework (Green & Kreuter, 2005)

2.12 Summary

This chapter covered the literature review. The literature revealed several challenges to implementation of EBF. The literature search also identified several strategies that have been used for promotion of EBF. It was noted that most strategies to promote breastfeeding were implemented as an effort to improve appropriate IYCF but the rate of EBF remains low. This chapter also describes factors that influence EBF and theoretical framework.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This section gives a detailed picture of how the study was conducted. All aspects related to research methods and designs are explained. The following aspects are covered: research approach; research designs; the population of the study; sampling techniques and the sample size; instrument; data collection and analysis methods; and measures to ensure validity, reliability and trustworthiness. Finally, ethical considerations for the study are described.

3.2 Study Setting

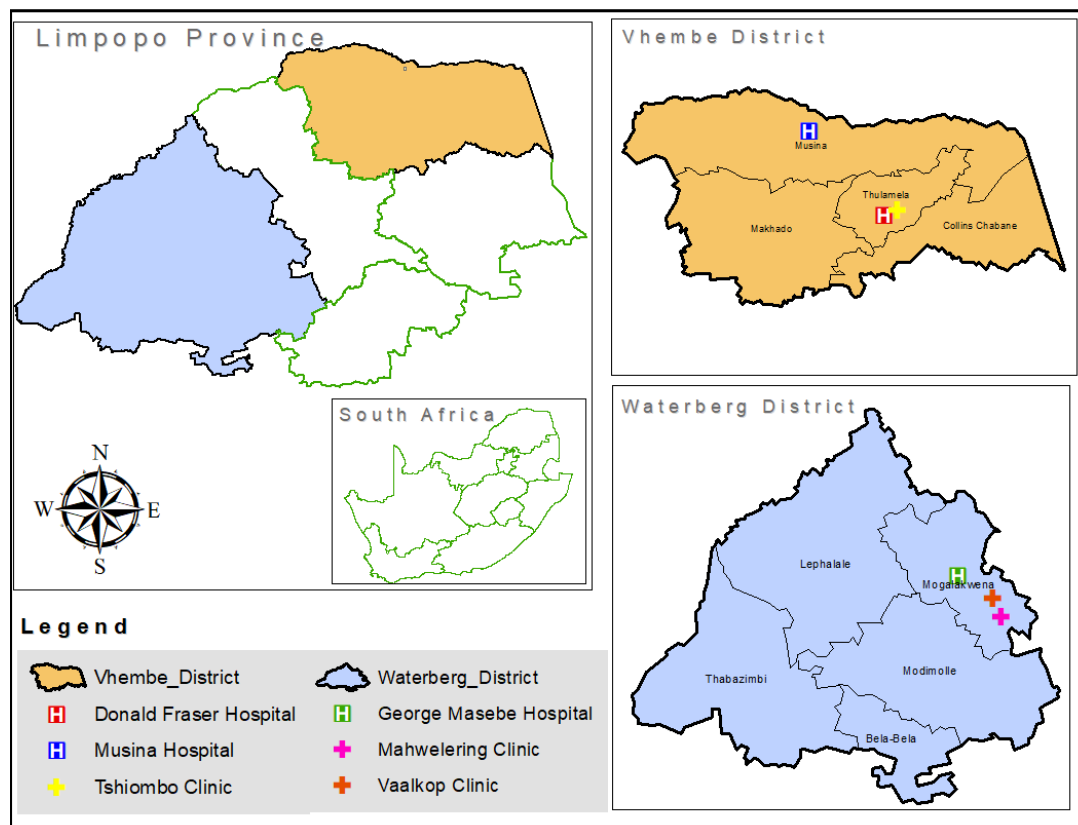
This study was conducted in Limpopo Province. The province has five districts namely: Vhembe, Mopani, Sekhukhune, Waterberg and Capricorn of which two districts were used in this study. Limpopo province. Limpopo has 478 health facilities (Table 3.1) with both BabyFriendly Hospital Initiative (BFHI) and non-BFHI facilities conducting deliveries. This number is made up of the following: 411 PHC clinics 28 health centres, 30 district hospitals, five regional hospitals, two special and two tertiary hospitals. Vhembe is the northernmost district of the province and mostly rural. Most of its 1 199 856 people speak Venda while the other major languages being spoken in the district are Tsonga, Sepedi and Afrikaans. Waterberg District is in the western part of the Limpopo Province (Figure 3.1). Most of the population of 745 758

population speak Sepedi (DoH,2016).

Table 3.1: Limpopo Province district population and health care facilities

Name of the Districts	Code	Area (km ²)	Population	Health Care Facilities
Vhembe	DC 34	25,596	1,393,949	133
Waterberg	DC 36	44,913	745,758	48
Capricorn	DC 35	21,705	1,330,436	108
Mopani	DC 33	20,011	1,159,185	108
Sekhukhune	DC 47	135,528	1,169,762	81
Total		247,753	5,799,090	478

Source: DoH (2016)



Adopted from www.municipalities.ac.za

Figure 3.1: Limpopo Province map showing the selected districts

Per DHIS Limpopo (DoH, 2016), there are 177 nurses in the maternity units of the selected health care facilities broken down as follows (Table 3.2).

Table 3.2: Nurses in maternity units of the selected health care facilities (DoH, 2016)

Health Care Facilities	Health Care Workers
Donald Frazer Hospital	56
Tshiombo Clinic	12
Musina Hospital	44
Vaalkop Clinic	12
George Masebe Hospital	38
Mahwelereng Clinic	15
Total	177

The traditional health system is very strong in Limpopo Province. As such, communities are still influenced by their cultures. All health facilities conduct deliveries and promote breastfeeding.

3.3 Overview of the Study

This study comprised of two phases, i.e., **Phase 1: Needs Assessment**, and **Phase 2: Development and Validation of an Intervention Programme** arranged as the objectives of the study. As indicated in Chapter 2, the study was guided by Intervention Mapping (IM). Table 3.3 outlines the research process.

3.4 Sampling

Multistage sampling was conducted to select the districts, health care facilities and the participants.

3.4.1 Sampling of the Districts

Two districts (Vhembe and Waterberg) were purposively selected for this study.

Table 3.3: Outline of the research process

Study Phases	Method	Objectives	Participants/Respondents	Data Analysis	Results
<i>Intervention Mapping</i>					
Phase 1 Needs Assessment	Stage 1 Qualitative in-depth interviews	1. To assess the implementation of EBF in selected districts of Limpopo Province 2. To explore challenges to EBF in Limpopo Province	Professional nurses	Eight Tesch's steps of data analysis	Health care could execute their roles in the implementation of EBF. Challenges identified are not enabling health care workers to execute their roles in the implementation of EBF effectively
	Stage 2 Quantitative questionnaire	3. To determine factors that contribute to the implementation of EBF in Limpopo Province	Lactating mothers	SPSS	There was poor management and support of lactating mothers
Phase 2: Development and validation of the intervention	Stage 1 Intervention development	4. To develop an intervention programme to promote strategies in Limpopo Province	District health managers, dieticians/nutritionist and professional nurses		Educational programme suggested and developed
	Stage 2 Validation of a developed programme. Checklists	5. To validate the developed intervention programme	Health care managers, dieticians/nutritionist and professional nurses	Simple descriptive statistics	Developed programme validated

The selection was based on the disparities in initiation rates. Vhembe had the highest initiation rate of 99%, while Waterberg had the lowest with 78%.

3.4.2 Sampling of the Health Care Facilities

Health care facilities from the three selected districts were selected using simple random sampling. The fishbowl technique was used and this involved the name of each health facility category (hospital, health centre or clinic) from each selected district being written on a separate slip of paper, placed in a bowl and shuffled. A neutral person was asked to select three facilities from each district. In Vhembe District, Donald Fraser Hospital (DFH), Tshiombo Clinic and Musina Hospital were selected while in Waterberg District, George Masebe Hospital, Vaalkop Clinic and Mahwelering Clinic were selected.

3.5 Phase 1: Needs Assessment

As indicated in Chapter 2, the study is guided by the IM. Phase 1 is a needs assessment which is the first step of IM. This phase addressed objectives 1, 2 and 3:

1. To assess the implementation of EBF in Limpopo Province
2. To explore challenges faced by health care workers in the implementation of EBF in Limpopo Province
3. To determine predisposing, enabling and reinforcing factors that contribute to the implementation of EBF in Limpopo Province.

3.5.1 Research Design

The convergent parallel mixed-method design was used. The researcher combined

quantitative and qualitative research methods into a single study. The researcher collected and analysed qualitative and quantitative data in the same phase, and merged the findings, this is a side-by-side approach with the comparison of data in the interpretation and discussion phases (Creswell & Clark, 2011). Per Polit & Beck (2012), the convergent parallel mixed-method design is the concurrent equal priority mixed-method design in which different, but complementary qualitative and quantitative data are gathered about the central study and can also be called triangulation (Figure 3.2).

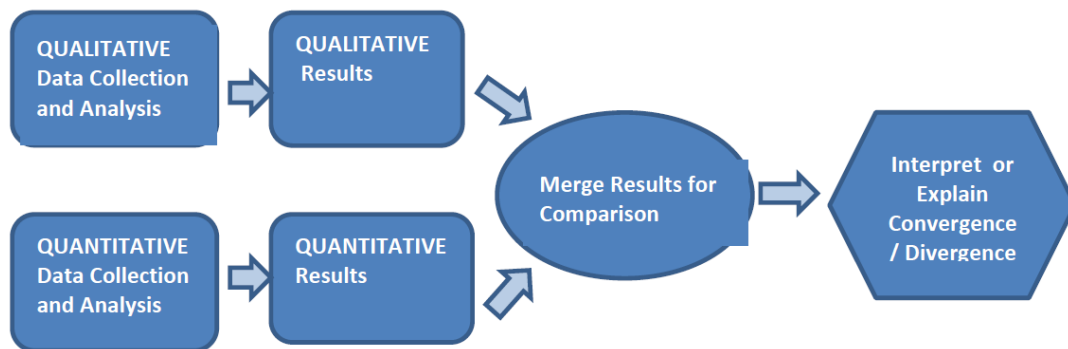


Figure 3.2: Convergent parallel mixed-methods process (Creswell & Clark, 2011)

In this study, the researcher used the convergent parallel mixed-method design because it allowed the researcher to develop a complete understanding of the implementation of EBF by converging qualitative and quantitative and comparing the results (Creswell, 2014). The rationale of using the mixed-method approach in this study was to obtain a better understanding of the implementation of EBF by accommodating both health care workers and lactating mothers and by integrating specific details from qualitative data with numeric trends from quantitative data. The researcher combined inductive and deductive reasoning to assess the implementation

of EBF and to explore the challenges experienced by the health care workers and the factors that influenced EBF by the lactating mothers.

3.5.2 Stage 1: Qualitative Design

In this stage, a qualitative approach was employed to achieve the first two objectives of the study, which were as follows:

1. To assess the implementation of EBF Limpopo Province.
2. To explore the challenges in the implementation of EBF practices in Limpopo Province.

The qualitative approach was used to explore life experiences of health care workers in their implementation of EBF as an in-depth understanding of the phenomenon is required to provide better insight and can help to generate ideas and hypotheses. Its goal of depth, richness and complexity is achieved through interviews, observation and document analysis (Creswell, 2014). The approach was chosen in this study for the researcher to assess the implementation of EBF and explore the challenges experienced by the health care workers in the implementation of EBF in Limpopo Province because it is an appropriate method for addressing issues regarding the implementation of EBF in birthing facilities and to understand how the phenomenon was being dealt with.

3.5.2.1 Study Design

A phenomenological design was employed, which was explorative, descriptive and contextual in nature. Explorative is merely formative for gaining new insights, the

discovery of ideas of the health care workers on the implementation of EBF and a descriptive study is aimed at providing an accurate and precise description of the challenges they experience in the implementation of EBF. It is further suggested that one cannot separate people's experiences from the context in which they have those experiences, thus, in this study, the health care workers' challenges on the implementation of EBF in their facilities.

The researcher employed phenomenology research to describe the health care workers' experience in the implementation of EBF and their interpretation (Brink, Vander Walt & Van Ransburg, 2012). Polit & Beck (2012) described phenomenology as a method whose principal aim is to explore and understand people's everyday life experiences. The appropriateness of this method is further underpinned by the profundity of data required to assess the implementation and explore the challenges of lactating mothers regarding EBF. In qualitative studies, the basic and almost general supposition is that an individual's perspective is meaningful, knowable and can be expressed or shown in explicit detail (De Vos, Strydom, Fouche & Delpont, 2011).

A phenomenology design permits the in-depth gathering of data with special care and attention, context and the slightest difference in meaning. This method was chosen in line with the specific objectives of this study. It assisted the researcher to gather more information which gave a picture of how the province is performing about EBF. The design allowed the participants to describe and elaborate on how they implement EBF and their challenges experienced and, hence, enabling the researcher to gain a detailed understanding of their challenges.

3.5.2.2 Population

The target population is the entire set or aggregation of objects, persons, behaviour or events, or any other single unit of a study, sometimes called the element or single unit that meets a sampling criterion (Botma, Greeff, Mulaudzi & Wright, 2010). In this study, the target population were all professional nurses working in the birthing units of the Limpopo Province, whilst the accessible population were the professional nurses from the two selected districts, working in the birthing facilities.

3.5.2.3 Sampling Method and Sample

The convenience sampling technique was used to select eligible participants. Those professional nurses who met the criteria and were on duty during data collection were included in the study. The researcher interviewed 30 professional nurses from selected districts, even though data saturation was reached at 17.

3.5.2.4 Instrument

An unstructured interview guide was used as an instrument to collect data containing the central question:

Share with me how you implement EBF in your facility.

Follow-up questions were then asked based on the participants' responses, which allowed the researcher to locate and probe interesting or important points. The aim was to capture the richness and complexity of how they implemented EBF in the province and thus allowing the interview to progress.

3.5.2.5 Pre-Test

The researcher pre-tested the central question, to test the research participants' understanding of the question and to check the kind of information that would be gathered. This was done with two participants from Vhembe District health facility (Tshilidzini Hospital) who were selected using the convenient sampling method and who met the inclusion criteria. The central question was not structured properly and necessary modification was done, "from how do you implement EBF in your facility" to "share with me how you implement EBF in your facility". Results of the pre-test were included in the main study.

3.5.2.6 Data Collection Method

The researcher utilized unstructured in-depth interviews to collect data. The method assisted the researcher to clarify some concepts and to cogitate on the meaning of some statements about the implementation of EBF. Furthermore, the researcher probed participants to elaborate on some statements in order to get clarity and avoid misunderstanding (Creswell, 2014). Per De Vos *et al.* (2011), an unstructured interview is a session during which the researcher got to understand the experiences of the participants and the meaning they made of those experiences. In this study, the researcher aimed at gathering rich, deep descriptions of the research participants' experiences from their perspective.

The researcher asked for a room that was conducive for conducting the interview in the selected facilities so that privacy can be maintained. The unstructured individual interviews were beneficial since the participants became comfortable enough to describe experiences of professional nurses in the implementation of EBF in the

province without fear that someone else overheard the opinions they were expressing. They were comfortable to give relevant information that enabled the researcher to understand the phenomenon without fear of wasting time during the interview sessions. The participants were more comfortable when the unstructured interviews were conducted in their natural work environment. Interviews were conducted during lunch-time to avoid interfering with the participants' duties and the interview took 25-45 minutes.

Field notes were taken during interview sessions. A voice recorder was utilized to capture all proceedings of the interview sessions with permission from the participants. The interview sessions assisted the researcher to understand the experiences of the participants since they were given an opportunity to describe their lived experiences regarding implementation of EBF in the facilities. Data were collected in English. Data collection took 25 weeks (eight months; starting from late October 2018 to May 2019) because of the distance to Waterberg.

3.5.2.7 Data Analysis

Data analysis was conducted to reduce, organize and give meaning to the data (Grove, Burns & Gray, 2013). At the end of data collection, the researcher transcribed the information verbatim after listening to the recording several times.

Tesch's eight steps of data analysis were used to profile the qualitative factors that emerged from the participants' responses. This process entails coding responses to establish cluster quotations and family themes to convert primary data into information readable by users. The following steps adapted from Creswell (2009) were followed

during the data analysis:

❖ **Step 1—Reading Through the Data**

The researcher got a sense of the whole by reading all the verbatim transcriptions carefully. The researcher re-read the transcripts and listened to the recording to ensure that no vital information was lost during transcribing. This gave ideas about the data segments and what they looked like. The meanings that emerged during reading and all ideas as they came to mind, were written down. An uninterrupted period to digest and thought about the data in totality was created. The researcher engaged in data analysis and wrote notes and impressions as they came to mind.

❖ **Step 2—Reduction of the Collected Data**

The researcher scaled-down the data collected to codes based on the existence or frequency of concepts used in the verbatim transcriptions. The researcher then listed all topics that emerged during the scaling down. The researcher grouped similar topics, and those that did not have association were clustered separately. The researcher started recording thoughts and writing notes about the data in the margins of the paper of the verbatim transcripts.

❖ **Step 3—Asking Questions About the Meaning of the Collected Data**

The researcher read through the transcriptions again and analysed them. This time the researcher asked herself questions about the transcriptions of the interview, based on the codes which existed from the frequency of the concepts. The questions were:

Which words describe it?

What is this about? and

What is the underlying meaning?

❖ **Step 4—Abbreviation of Topics to Codes**

The researcher started to abbreviate the topics that emerged as codes. These codes need to be written next to the appropriate segments of the transcription. Differentiation of the codes by including all meaningful instances of a specific code's data was done. An independent coder was also used, and similarities and differences were discussed, and agreements reached.

❖ **Step 5—Development of Themes and Sub-Themes**

The researcher developed themes and sub-themes from coded data and the associated texts and reduced the total list by grouping topics that related to one another to create meaning of the themes and sub-themes.

❖ **Step 6—Compare the Codes, Topics and Themes for Duplication**

The researcher, in this step, reworked from the beginning to check the work for duplication and refined codes, topics and themes, where necessary. Using the list of all codes, the researcher checked for duplication. The researcher grouped similar codes and recoded others where necessary so that they fitted in the description.

❖ **Step 7—Initial Grouping of All Themes and Sub-Themes**

The data belonging to each theme were assembled in one column, and a preliminary analysis was performed, which was followed by the meeting between the researcher and an independent coder to reach consensus on themes and sub-themes that each one has come up with independently.

❖ **Step 8—Recoding, if Necessary**

A necessity to recode emerged as some of the themes reached independently were merged. An independent coder, who was an experienced qualitative researcher, was requested to independently analyse verbatim transcripts (Appendix 13). A meeting was held between the independent coder and the researcher for a consensus discussion about the themes and sub-themes that were identified independently.

3.5.2.8 Measures to Ensure Trustworthiness

Trustworthiness is concerned with how the researcher will establish confidence and what makes the findings genuine, which is the truth value? How will the researcher determine the applicability or transfer the findings to other settings? How would one achieve consistency or repeat the study with the same participants and get the same results? Lastly, how would one be sure that findings come solely from participants and the investigation was not influenced by biases and interests of the researcher (Anny, 2014). The following standard criteria were considered:

❖ **Credibility**

This is the confidence in the truth of the data and their interpretation. Lincoln & Guba as cited in de Vos *et al.* (2011) pointed out two aspects: first, carrying out the study in a way that enhances the believability of findings, and second, taking steps to demonstrate credibility to external readers. In this study, credibility was established as follows:

❖ **Prolonged Engagement in the Field**

The researcher immersed herself in the world of the participants to gain insight into

the context of the study and minimize distortion of information. This helped the researcher to understand core issues that may affect the quality of data and to develop trust with participants. The researcher was intensively involved and became a research instrument. Participants narrated their lived experiences on how they were implementing EBF.

❖ **Use of Peer Debriefing**

The researcher sought support from the promoter and co-promoter who were expected to comment before the conclusion of the study.

❖ **Consistency**

To ensure consistency in this study, leading questions, for instance, were avoided to obtain unprejudiced responses and experiences of subjects. The researcher did not hesitate to seek clarification on matters that had not been clearly understood.

❖ **Transferability**

The research design, setting of the study, target population and sampling procedure were clearly explained, to allow the study to be replicated by other researchers in the future and to also come up with the similar conclusions. The clear delimitation of the study and the explicit description of the methods that were employed was expected to aid transferability, especially to similar populations (de Vos *et al.*, 2011).

❖ **Confirmability**

In this study, the following enhanced confirmability: Carefully planning the research process, design, sampling and data collection; Recording of the participants during the interview; transcribing the raw data from the tape and analyse raw data and

findings through contextualization. The independent coder analysed transcripts, reviewed raw data and recorded information as well as written field notes.

3.5.3 Stage 2: Quantitative Design

In this stage, the quantitative approach was employed to achieve the following objective:

- ✳ To determine factors contributing to the implementation of EBF among mothers.

3.5.3.1 Study Design

The cross-sectional design was used. This method was chosen because it assisted the researcher gathering more information which would give a comprehensive picture of how the province is performing about EBF. It was also appropriate because the researcher wanted to gather more information from a larger population at one point in time.

3.5.3.2 Population

In this phase, the target population of this study comprised of all lactating mothers of the Limpopo Province. The accessible population comprised all lactating mothers who have infants aged 0-6 months from two selected districts.

3.5.3.3 Sampling

Convenient sampling was used to select eligible respondents, and lactating mothers who brought their infants (0-6 months) for immunization during data collection were included in the study.

3.5.3.4 Sample Size

Per the District Health Information System (DHIS, 2016), the total number of lactating mothers bringing their infants for immunization was estimated at 2730 monthly. Based on the target population of 2730, a minimum sample size of $n=349$ was calculated using Slovin's formula [$n=N/(1+Ne^2)$] where N denotes the total number of lactating mothers and n is the sample size, respectively, with $e=0.05$ as the margin of error (Guiford & Frucher, 1973).

$$\begin{aligned}n &= \frac{2730}{1 + N(e)^2} \\n &= \frac{2730}{1 + 2730(0.05)^2} \\n &= \frac{2730}{1 + 6,825} \\n &= \frac{2730}{7,825} \\n &= 379\end{aligned}$$

However, the researcher added 21 respondents to come up with a sample of 400 to cater for non-responses and increase the representativeness of the sample. The sample size of each health facility was calculated using the percentages of monthly statistics to distribute the sample size for each facility as indicated in Table 3.4.

3.5.3.5 Measuring Instrument

In this stage, a questionnaire was employed to collect data. The questionnaire was developed based on the objective of the study and contained close-ended questions written initially in English (Appendix 11A) and given to the language experts to

translate it into Tshivenda (Appendix 11B) and Sepedi (Appendix 11C). Questionnaire were translated into Tshivenda and Sepedi because Tshivenda is the most spoken language in Vhembe district and Sepedi is the most spoken language in Waterberg district.

Table 3.4: Sampling Frame and proportionally sampled lactating mothers per health facility (DHIS, 2016)

Health Facilities	Total of Lactating Mothers	Percent (%)	Sample Size
Donald Frazer Hospital	420	15.4	61
Tshiombo Clinic	360	13.2	53
Musina Clinic	360	13.2	53
George Masebe Hospital	690	25.5	101
Mahwelereng Clinic	540	19.7	79
Vaalkop Clinic	360	13.2	53
Total	2730	100	400

The questionnaire was divided into three sections as follows (Table 3.5):

Table 3.5: Sections of the questionnaire

Section 1	Socio-Demographic Profiles of the Respondents
Section 2	Factors Affecting EBF
Section 3	Knowledge of Benefits of EBF Among Mothers

3.5.3.6 The Pre-Test

A pre-test was carried out by administering the questionnaire to 10 respondents who met inclusion criteria in one health care facility of Vhembe District that was not selected in this study (Tshilidzini Hospital). The researcher used the results of the pre-test to identify problems in the design and sequence of questions, and necessary corrections were made.

3.5.3.7 Data Collection

Data collection commenced in late October 2018 and was completed by the end of

May 2019. The process took place at the selected health care facilities. The researcher arranged for convenient times to meet with the lactating mothers, preferably after immunization. Arrangement to use separate rooms for completion of questionnaires were made. The respondents were informed about the study through an information letter (Appendix 9) and those willing to participate were given a consent form (Appendix 10) to sign.

Those who could not read and write were assisted to complete the questionnaire. It took 30-45 minutes to complete the questionnaire. Two research assistants were hired and trained to assist with data collection. Selection of research assistants was based on the qualifications, maximum was Honours. The researcher trained the research assistance. The training was on the administration of the questionnaire, as well as on ethical issues involved and was involved in the pre-test. Considering the scope/setting of the study, there was a need to recruit and train research assistants with an honours degree to provide necessary assistance to the researcher. The training took three days. It included the following:

Table 3.6: Training of research assistants

Day 1	Activities Related to Interviews, Questionnaire, Tape Recording and Writing of Fields Notes
Day 2	Assistance in Relation to on How to Collect data
Day 3	Field Work Consisting of Demonstrations and Return Demonstrations on How to Interview Participants and Administer Questionnaires

The researcher and research assistants remained with the respondents during the completion of the questionnaire to clarify items they did not understand and to prevent

them from sharing their responses.

3.5.3.8 Data Analysis

Data was entered Microsoft Excel and analysed using the Statistical Package for Social Sciences (SPSS) version 26.0. The descriptive statistical method was used to analyse the characteristics of the participants. The database was used to obtain frequency distributions of the variables and to carry out descriptive analysis. Tables and charts were used to summarize the results. Data were coded to reduce its complexity using a code sheet. Correlation analysis was done to test the interdependence of important variables. From the description of the convergent mixed-method design, the researcher collected both qualitative and quantitative data, analysed them separately and then compared the results to see if the findings support or refute each other (Creswell, 2014).

3.5.3.9 Measures to Ensure Validity and Reliability

Validity is the ability of an instrument to measure the variable that it is intended to measure (de Vos *et al.*, 2012). It seeks to ascertain whether the instrument accurately measures what it is supposed to measure given the context in which it applied (Brink *et al.*, 2012). Reliability refers to the degree to which the instrument can be depended upon to yield consistent results if used repeatedly over time on the same person or if used by two researchers (Brink *et al.*, 2012).

❖ Validity

Validity is sometimes used to mean “true” or “correct”. The researcher believes that the information provided by the respondents will be valid since relevant participants

were selected for the study. To ensure face validity, the questionnaire was presented to the supervisors, the department, the school and the university higher degree committee. The feedback assisted the researcher to modify the instrument. To ensure content validity, there was no statistical test to test if the instrument has the content validity, but the people who are experts in the field judge the content validity. The content validity was also checked by conducting the pre-test with the participants who did not form part of the main study, but who possess the same characteristics as the participants who formed part of the main study.

❖ Reliability

Test-retest can also be used to ensure reliability. The questionnaire administered to 40 lactating mothers (10% of the sample) in one of the health care facilities not chosen for the study. Then the same mothers chosen were requested to come back. The same questionnaire was administered and compared to assess the reliability of the instrument. Respondents who participated in the reliability testing were not part of the study.

3.5.4 Integration of Results

The results of the qualitative and quantitative study strands were analysed together separately and merged under discussion at the interpretation stage, where the results from both approaches were discussed together in a complementary manner. The themes about the implementation of EBF and challenges from the interviews were compared with the numeric trends from the mothers' responses and the correlations to find the explanations for the various trends regarding the issue.

3.6 Phase 2: Development and Validation of the Intervention Programme

Comparison of the qualitative and quantitative results in Phase 1 allowed the researcher to identify the factors that influenced EBF and informed Phase 2. Phase 2 comprised of two stages, the development of the intervention and validation.

3.6.1 Stage 1: Developing an Intervention Programme to Promote EBF Strategies

This stage covers the fourth objective which was to develop an intervention programme to promote EBF strategies in Limpopo Province. The intervention aimed at assisting health care workers, lactating mothers and other stakeholders to make informed decisions on the choice of interventions that will impact positively on their health. The findings from both qualitative and quantitative approaches were integrated and interpreted to identify themes which informed the development of the intervention. A literature review, including available strategies and policies, were conducted.

The researcher then conducted a workshop with health care managers, dieticians and nutritionists from Vhembe District Department of Health for two days to present the findings. Based on the findings, the team determined the core components and elements of the intervention programme. The team was divided into eight groups with six participants each to discuss what should be included in the intervention programme. This phase aligned with step four of the IM. The Diffusion and Innovation Theory (DIT) (Rogers, 2003) guided the development of the intervention or innovation. DIT, in this study, has helped to explain the criteria to be considered when developing an innovation or intervention which will facilitate diffusion in the communities. The diffusion process of DIT include imparting knowledge to stakeholders, and then they

become interested and try to learn more about it, they decide to use the programme and start to implement the programme and finally decide to continue using it (Rogers, 2003).

3.6.2 Stage 2: Validation of the Developed Programme

The aim of validation was to evaluate the compatibility, flexibility, relative advantage and quality of the intervention programme. Validation of the intervention programme was done in Vhembe District. At the end of programme development, the researcher organized a feedback session with health managers, lactating mothers and health care workers. During this session, the programme was presented to them for validation. Theoretical validation of the intervention programme was performed per Rogers' criteria, which are compatibility, flexibility and relative advantage (Rogers, 1983).

❖ Compatibility

A compatible intervention is consistent with the economic, socio-cultural, and philosophical value system of the adopter. The aim of the intervention programme was to educate women and community on the benefits of EBF and to empower them with knowledge and skill to sustain EBF and breastfeeding for two years and beyond. By providing an educational intervention that enables lactating mothers to exclusively breastfeed their infants for six months, the programme is compatible and consistent with WHO recommendations and IYCF policy.

❖ Flexibility

Flexibility allows for programme adaptation by the adopters. The programme should

be adaptable to different organizational structures, population bases, and management styles

❖ **Relative Advantage**

For the programme to appeal to potential adopters, they must perceive that it has some advantage over their existing norm and that it is adoptable. The findings of the study and the developed programme to promote EBF were presented to stakeholders for validation. The following questions to ensure compatibility flexibility and relative advantage of the intervention programme were discussed:

1. How clear is the intervention programme?
2. will the programme be easy to implement?
3. How general is the programme?
4. Will the intervention be easily accessible?
5. How important was the intervention programme? Were the benefits of intervention easily identified (Appendix 16A)?

The researcher used the non-experimental, intervention validation design as this is commonly used in research (Grove, & Burns, 2013). The results of the programme showed 100% affirmative acceptance.

3.7 Ethical Considerations

The proposal was first presented to the Department of Public Health and then to the

School of Health Sciences Higher degrees' committee for quality assurance. Then, presented to the University Higher Degrees Committee for approval (Appendix 1). Ethical clearance was sought from the University of Venda Ethics Committee. Permission to conduct the study was granted from the Department of Health, Limpopo Province (Appendices 2A and 2B), Vhembe (Appendices 3A and 3B) and Waterberg (Appendices 4A and 4B) districts and from the managers of the health care facilities where the study was conducted (Appendices 5A and 5B, 6A and 6B, 7A and 7B and 8). The names of the participants have no bearing on the findings of the study. Therefore, they were kept confidential. The researcher made sure that the data from the respondents could not be linked to them, no names were used, and instead codes were used to identify the respondents, for example participant number one.

The researcher made sure that the supervisors from the university and the researcher are the only ones with access to the respondents' information. An information letter (Appendix 9) with the full explanation of what the researcher used to seek informed consent (Appendix 10) from each participant. Participation depended on the free will of the participants and they were informed of their right to withdraw from the study at any time, if they so wished. The research was conducted in such a manner that participants were not harmed.

3.8 Summary

This chapter addressed the methods used. Convergent mixed-methods were used in Phase one (Need assessment) to explore the implementation of EBF in Limpopo Province and the challenges experienced by both health professionals and lactating mothers. In phase two of the study (development and validation of an intervention

programme).

CHAPTER 4

PRESENTATION AND INTERPRETATION OF QUALITATIVE DATA

4.1 Introduction

The previous chapter presented the research design and methods of both the qualitative and quantitative study phases. The purpose of this chapter is to present and interpret the qualitative findings from the individual in-depth interviews conducted with the health care workers. The results are presented in a narrative format with participant's quotations.

4.2 Objectives of the Qualitative Phase

The objectives of the qualitative phase were to:

- ❄ Assess the implementation of EBF in Limpopo Province

- ❄ Explore challenges faced by health care workers in the implementation of EBF in Limpopo Province.

4.3 Demographic Information

A total of 30 professional nurses participated: 93% females and 7% males took part in the study. The ages of the participants were between 20-59 years, but the dominant group was 40-49 years. Of the participants, 43% percent were single followed by 27% who were married. Participants' working experience was between 1 and 25 years with 37% of the longest experience, i.e., 16 to 20 years (Table 4.1).

Table 4.1: Demographic information of participants

Demographic	Category	Frequency	%
Age (Years)	20-29	6	20
	30-39	4	13
	40-49	11	37
	50-59	9	30
Marital Status	Divorced	7	23
	Single	13	43
	Married	8	27
	Widow	2	7
Qualifications	Diploma in General Nursing Science (Psychiatric, Community, Midwife) (College)	10	33
	Diploma in Nursing Science (University)	17	57
	Degree in Nursing Science (University)	3	10
Working Experience (Years)	5 to 10	3	10
	11 to 15	6	20
	16 to 20	11	37
	21 to 25	10	33

4.4 Themes and Sub-Themes

Qualitative data analysis generated five main themes (Table 4.2) and 20 sub-themes.

The main themes were: Paradoxical explanations on how EBF is implemented in health facilities; an explanation of how individuals involved in caring for infants respond to EBF programme; Challenges experienced by nurses during promotion of EBF; Explanations of the identified health benefits of EBF; and suggestions by health care professionals.

Table 4.2: Themes and sub-themes reflecting programme to promote EBF

Main Themes	Sub-Themes
1. Paradoxical explanations on how EBF is implemented in the health facilities	<p>1.1 Existence of dedicated days and programmes for rendering the EBF services which differ from one institution to the other (immunization, health education programme ANC, after delivery)</p> <p>1.2 Existing health education programme and different topics covered (advantages and disadvantages, Participatory Health Education programme rendered, cup as opposed to bottle feeding, infants' milestones).</p> <p>1.3 What EBF means and how it is viewed by different people involved in the care of infants</p> <p>1.4 Processes of monitoring and encouraging EBF, and timeframe thereof</p> <p>1.5 Strategies employed for promoting EBF</p> <p>1.6 An explanation that EBF implementation is guided by existing policy and related factors in the health care environment</p> <p>1.7 Existence of mentors and support groups forms part of promoting EBF</p>
2. An explanation of how individuals involved in caring for infants respond to the EBF programme	<p>2.1 Compliance to EBF depends on individual mothers; working/school going and parity</p> <p>2.2 An explanation if male partners view EBF as beneficial to infants and reasons thereof provided</p> <p>2.3 Existence of mother mentors viewed beneficial in promoting EBF</p>
3. Challenges experienced by health care workers (nurses) on the implementation of EBF	<p>3.1 Lack of adherence and negative attitudes towards EBF by teenage mothers experienced, based on various reasons</p> <p>3.2 Family, taboos, religious and socio-cultural influences interrupt attempts to maintain EBF</p> <p>3.3 Shortage of staff and lack of time during care provision blamed for monitoring the adherence of EBF by nurses</p> <p>3.4 Lack of compliance to EBF by HIV-positive mothers resulting from fear of infecting infants</p> <p>3.5 Lack of formal and continuous training for nurses viewed as problematic for EBF promotion programme</p>
4. Explanations of the identified health benefits of EBF	<p>4.1 EBF viewed as beneficial to family and infants themselves leading to infant's development of normal milestones and disease prevention</p> <p>4.2 EBF viewed as a time and money saver for mothers which could be used for family issues</p>
5. Perceived measures to promote EBF suggested by health care professionals	<p>5.1 Outreach programmes suggested to improve EBF and other health-related issues</p> <p>5.2 Improvement of the on-going health education programme to encourage EBF and all related aspects suggested</p> <p>5.3 Establishment of support groups which will promote learning from one another regarding EBF suggested strategies</p>

4.4.1 Theme 1: Paradoxical Explanations on How EBF is Implemented in the Health Facilities

4.4.1.1 Sub-Theme 1.1: Existence of Dedicated Days and Programmes for Rendering the EBF Services Which Differ from One Institution to the Other (Immunization, Health Education Programme During ANC)

Most of the participants indicated that EBF is implemented in the facilities. Pregnant women are taught about EBF during ANC, immunization and after delivery.

❖ **Participant (P1) said:**

We render this service of EBF from Monday until Friday, but we also give health education during the weekends. Let me put it in this way, we start to teach about the importance of EBF to pregnant women during ANC and to lactating mothers during immunization.

❖ **Participant (P1) explained further:**

Here you know we practice EBF by teaching, we teach them how to express breast milk and storage during ANC.

Other participants indicated that their institution is BFHI compliant and that they implement EBF as per the policy. Participants mentioned that teaching comprises the Ten Steps of Breastfeeding, which include EBF for six months and continuing it for two years and beyond.

❖ **Participant (P21) indicated:**

This hospital is Baby Baby-Friendly; every day in the morning we teach about breastfeeding, positioning and attachment. We teach about ten steps to successful breastfeeding. We teach about EBF for six months and to continue for two years and beyond, I mean immediately, we teach pre-term babies mothers to express breast milk and use cup to feed them.

Some participants were even specific about the weeks in which EBF is taught during immunization, which is at six, ten and fourteen weeks.

❖ **Participant (P4) said:**

We inform them, I told you earlier that we start during ANC and well-baby clinic, at 6, 10 and 14 weeks. Ok!! We teach them that they should breastfeed their babies for six months and we encourage them to start or introduce them to solid food after six months.

However, some of the professional nurses indicated that they did not have time to teach about EBF, especially after delivery. Trained mother mentors assisted in teaching.

❖ **Participant (P4) continued:**

Although we don't have time, after birth we have a responsible person here called mother mentors, she teaches the lactating mothers about breast breastfeeding.

This was echoed by participant (P12).

4.4.1.2 Sub-Theme 1.2: Existing Health Education Programme and Different Topics Covered (Advantages and Disadvantages, Participatory Health Education Programme Rendered, Importance of Different Types of Bottle Feeding, Cup as Opposed to Bottle Feeding, Infants' Milestones)

Participants indicated that promoting EBF is by encouraging women to participate during health education and that they teach in accordance with their teaching programme which included different topics on breastfeeding. They motivated lactating mothers to assist each other to exclusively breastfed their babies for six months. EBF mothers motivated their peers by showing them their healthy growing babies.

❖ **Participant (P1) supported this statement:**

Yes, every morning we give ourselves 10 to 15 minutes to talk about breastfeeding per our teaching programme, we don't teach only breastfeeding, we include different topics and then we give those who are doing well on EBF to encourage others, those who are reluctant, they show them their healthy baby who are growing well and we see that they are admiring them.

❖ **Participant (P10) added:**

No, we don't give lecture, we use participatory method. Participatory method is very relevant because that's where mothers share their experience with us, we teach them, and health education is the best, that's what we do here.

4.4.1.3 Sub-Theme 1.3: What EBF Means and How it is Viewed by Different Professional Nurses Involved in the Care of Infants

Participants viewed implementation differently, some of the participants perceived EBF as a process in which mothers were encouraged to be with their babies and feeding them all the time. The following extracts exemplify this assertion.

❖ **Participant (P2) said:**

Mmm!! Implementation of EBF means to encourage mothers to breastfeed a baby on demand, to be always with the baby.

❖ **Participant (P11) added:**

EBF is to encourage the baby to grow well without diseases....

EBF is when the mother is giving her baby breast milk, I mean to breastfeed her baby properly, I mean exclusively breastfeed for six month and continue for two years without giving water and food.

To me implementing EBF means to promote health and to prevent our children from HIV, we encourage mothers to exclusively breastfeed their babies to prevent disease like diarrhoea, is about breastfeeding on demand.

❖ **Participant (P18) added:**

Yes!! Implementation of EBF is to exclude all types of food for the baby until six months, no soft porridge, and formula, water, medication unless medical recommended by the doctors and nothing else.

What! Am I right!?, Implementation of EBF means that the baby should be breastfed exclusively for first six months of her/his life, no mixed feeding, the baby needs to be given only breast milk, nothing else including water.

4.4.1.4 Sub-Theme 1.4: Processes of Monitoring and Encouraging EBF, and Timeframe Thereof

Most participants indicated that they initiate breastfeeding immediately within 30 minutes to promote the bond between the mother and the baby. This is done even before the cord is cut which also assist with the contraction of the uterus.

❖ **Participant (P14)'s point of view to support EBF:**

Immediately after delivery, we put the baby on the chest of the mother, skin-to-skin. But because of poor space we transfer the mother and the baby to postnatal, so maybe it will take an hour or less than that to start breastfeeding.

We initiate breastfeeding immediately after delivery we encourage the mothers to start breastfeeding within an hour especially when there are no abnormalities within 30 minutes post-delivery we encourage to initiate.

❖ **Participant (P2) concurred with this notion:**

Initiation immediately after delivery, we talk about EBF for six months, like breastfeeding on demand. I can't remember all about it but I think I have

tried, because we give babies to their babies immediately after delivery to start with breastfeeding'.

❖ **This idea was also supported by Participant (P9):**

Ok here, immediately after delivery we start by promoting bond between the mother and child by putting the child on the mother's chest which is called skin-to-skin, the baby may feel the presence of the mother. As a midwife while am still separating the cord from the placenta, I encourage the mother to start breastfeeding and encourage the uterus to contract, I think we start with breastfeeding within 30 minutes.

4.4.1.5 Sub-Theme 1.5: Strategies Employed for Promoting EBF

Most participants indicated that their institutions are BFHI and mothers are taught to continue with breastfeeding for two years per IMCI. Momconnect were used to remind mothers on when to introduce solids food, however technology and money for data remain a problem.

❖ **A participant purported:**

This institution is BFHI, and steps. We encourage EBF for six months and breastfeeding for two years. We encourage breastfeeding feeding on demand; we encourage mothers to practice rooming in; we discourage using of dummies and teats, those are the steps of promoting EBF.

❖ **Participant (P14) said:**

Jaa we implement EBF so well here, we teach mothers about feeding practices per IMCI, you know that, and we encourage them to register with MomConnect during pregnancy but technology and money for data is a problem, I think we are doing well.

4.4.1.6 Sub-Theme 1.6: An Explanation that EBF Implementation is Guided by Existing Policy and Related Factors in the Health Care Environment

Some of the participants indicated that they implemented EBF in line with the policy which also include breastfeeding in the context of HIV and mothers are discouraged to use dummies and teats. Their taught on good positioning and if baby's reflexes are poor they encourage to use a cup to feed Express Breast Milk. Participant

❖ **Participant (P3) indicated:**

We implement EBF per breastfeeding policy. We are guided by breastfeeding policy, this is a BFHI institution, the policy talks about EBF for six months and continue to two years and beyond. It encourages initiating breastfeeding within 30 minutes of birth, is about teaching women how to breastfeed and how to express breast milk. The policy includes breastfeeding in the context of HIV"... "You know what? This is per the policy, jaa!! That is breastfeeding policy, I think we are trying our level best.

❖ **Participant (P5) opined:**

We do have breastfeeding policy here, we encourage lactating mothers to express their breast milk if they are to separate with their infants, we

discourage bottle feeding and use of teats and dummies; we teach lactating mothers about the importance of rooming in and breastfeeding on demand.

Yes, we have breastfeeding policy because this institution is BFH, this policy encourages us to teach the benefits of EBF, it encourages us to initiate breastfeeding immediately after delivery and to encourage mothers to continue breastfeeding to two years and beyond, this policy is our guideline.

❖ **Participant (P8) added:**

We implement EBF per IYCF Policy; you know what the breastfeeding policy says; this policy talks about encouraging mothers to breastfeed their babies immediately after delivery to promote bonding. We teach about good positioning; we encourage EBF for six months and continue to two years and beyond. If the mother is HIV-positive, we encourage them to breastfeed up to 12 months to avoid mixed feeding. If the baby sucking reflects are poor, we encourage cup feeding with expressed breast milk, the policy says that the baby should be exclusively breastfed for six months, after six months the mother should take her own decision because now the baby is to be given solid food.

In this extract, the participant is knowledgeable in the implementation of EBF and actively participating by implementing the policies.

4.4.1.7 Sub-Theme 1.7: Existence Mentors and Support Groups Forms Part of Promoting EBF

Referring lactating mothers to a breastfeeding support group can scale up the rate of EBF.

❖ **The same view is held by Participant (P6):**

Support group is very good to promote EBF but here we don't refer them to support groups because we don't have, we do have two mother mentors to teach about breastfeeding, but they don't do follow up.

A support group is very crucial to promote EBF because lack thereof to refer to after discharge was regarded as a challenge.

❖ **This notion was supported by Participant (P7) who argued:**

We don't have support groups here, we don't refer mothers after discharge, no we don't have, and is a challenge because we teach the mothers the benefits of EBF but after discharge they don't have support, is a challenge.

❖ **Participant (P9) also added:**

We don't have support groups because now the government promote super market approach so clients like breastfeeding mothers coming for immunization they no longer come together at once. We can't establish support group because women don't give birth at the same time so with supermarket strategy is not easy to group them and we don't have anywhere to refer them after discharge.

4.4.2 Theme 2: An Explanation of How Individuals Involved in Caring for Infants, Respond to the EBF Programme

To promote EBF require individual commitment and dedication. Lactating mothers respond differently to EBF. Young mothers respond differently to elderly mothers. Sometimes it depends on the parity.

4.4.2.1 Sub-Theme 2.1: Compliance to EBF Depends on Individual Mothers; Working and School-Going; Parity

Participants mentioned that they were there to help lactating mothers to exclusively breastfeed their infants for six months and continue up to two years and beyond however the challenges are with teenagers who going back to school or work that they

discontinue with EBF.

❖ **Participant (P9) supported this notion:**

We are here to assist them, for the first-time mothers we teach them positioning, attachment and how to breastfeed. For the second-time mothers, we advise them to start breastfeeding while observing if they are doing well if not we teach them again, "We advise them that when going out, they must express breast milk and put it in the fridge, "That is, to give the baby only breast milks nothing else, but some comply but others are not.

❖ **Participant (P1) indicated:**

The challenges are with those teenager mothers, those who are going back to school or work, those who are not school going or working, most of them they don't have problems they comply but not all of them. We are having few mothers who did EBF for six months, that is why am saying, some are complying, but some are not.

4.4.2.2 Sub-Theme 2.2: An Explanation if Male Partners View EBF as Beneficial to Infants and Reasons Thereof Provided

Family support is very important in the promotion of EBF. Participants mentioned that fathers support is significant however some do that to get grant money.

❖ **Participant (P1) said:**

Fathers are encouraging the mothers to breastfeed because formula is very expensive for them, some use grant money to buy formula. Nowadays young parents are sharing grant money so fathers want that money too, they encourage mothers to breastfeed to avoid buying of formula, they want to share that grant money.

4.4.2.3 Sub-Theme 2.3: Existence of Mother Mentors Viewed Beneficial in Promoting EBF

Most participants indicated that teen mothers were not adhering to EBF because of various reasons such as losing their shape, insufficient breast milk, type of clothes that they put on that does not facilitate EBF, not attending ANC and influence by the parents or in-laws and peer influence.

❖ **Participant (P1) said:**

... we don't have time to teach, workload and overworked, our government should do something about this. In our institution is worse we don't have even those people called mother mentors to assist in promoting EBF...

The above extract depicted the availability of mother mentors who can promote EBF.

4.4.3 Theme 3: Challenges Experienced by Health Care Workers (Nurses) on the Implementation of EBF

The theme comprised of five sub-themes.

4.4.3.1 Sub-Theme 3.1: Lack of Adherence and Negative Attitudes Towards EBF by Teenage Mothers Experienced, Based on Various Reasons

Most participants indicated that teen mothers were not adhering to EBF because of various reasons.

❖ **Participant (P1) said:**

...teenage mothers as well they've got so many problems: they don't want to breastfeed in public, they interrupt EBF because they want to go back to school and they want to maintain their body shape.

❖ **Participant (P4) added on the wrong attitude of young mothers:**

Young mothers don't want to breastfeed for cosmetic reasons-fear of becoming out of shape and belief of insufficient breast milk, you know what? Wearing tight clothes, the way we dress nowadays, can't allow you to take out the breasts so they prefer to use formulas.

❖ **This was also supported by Participant (P15):**

...young mothers particularly teenager mothers don't have knowledge on the benefits and management of breastfeeding because they don't have time to attend ANC, they are always busy, is a challenge'. Teenage mothers don't have authority to can make their decisions. They must listen to their mothers or in-laws and follow their instructions of feeding practices.

❖ **Participants (P10) expressed her view by saying:**

Teen mothers, most of them, don't love their babies, Lack of love to the babies and lack of knowledge of the benefits of breastfeeding.

❖ **Participant (P14) added:**

Another burning issue is teenage mothers, Stress from being seen by friend while breastfeeding is another factor that influence EBF among young mothers because if the mother is stressed, she can't breastfeed.

4.4.3.2 Sub-Theme 3.2: Family, Taboos, Religious and Socio-Cultural Influences Interrupt Attempts to Maintain EBF

Many participants alluded to family, parent/parent-in-law and religion as the negative factors to EBF. Soft porridge is given as early as three days because of cultural herbs given to the baby. Several myths were raised such as the believe that the baby is hungry, that EBM is contaminated and dirty and cause diseases like diarrhoea and giving of anointing water to quench thirst, and that foremilk need to be discarded before breast milk.

❖ **Participant (P1) said:**

EBF not done because of the influence from the in-laws. In laws or parents have an influence to encourage them to go traditional healers (Vhomaine), the traditional healers are the ones who are forcing lactating mothers to give their infants other liquids and soft porridge mixed with herbs, you know as a professional nurse with knowledge on the benefits of is a challenge.

There is a myth because they think that expressed breast milk is contaminated and, in our culture, everything coming from the human body is contaminated. Because our grannies do not have knowledge, they thought expressed breast milk is dirty and it can cause diseases like diarrhoea, some are Christian they don't practice cultural rituals but some they give anointing water (madi a thabelo), so it is not common practice. But we are trying to teach them that foremilk is water but because is their religious believe is not easy. But we teach them the functions of foremilk, middle milk and the last milk. Foremilk is to quench thirst; middle milk contains all nutrients to prevent diseases and the last milk is to feed the baby.

❖ **Similarly, Participant (P3), shared her experience with EBF by saying:**

I didn't practice EBF because I was married, and my in-laws were the solution of the family, so they were influencing feeding practice of the baby and I wanted to obey their rules. I started mixed feeding three days after I was discharged from the hospital.

I mean, was not practised because I was a new Makoti (daughter in-law) in the family and I must follow my in-law's religion and culture of giving a baby anointing water at three days, culture and religion is very important to us black people.

Culture and beliefs, you know as Venda black people, we must do rituals for our babies like (Muthuso), and we must give herbs mixed with (Tshiunza) every morning to our babies as black people (Vhavenda) that is our culture. Religion is another factor; we must give anointed water every morning as instructions from pastors.

❖ **Participant (P12) said:**

Culture is still a challenge, these people are Makalalabears, people are total different, some are Bangladesh they prefer fresh milk, I think culture, religion and beliefs are the main factors including social aspects.

❖ **Per Participant (P18):**

EBF not practiced because of the grandparents. When I go back to work, they started to mix feed believing that the baby is hungry.

4.4.3.3 Sub-Theme 3.3: Shortage of Staff and Lack of Time During Care Provision Blamed for Monitoring Adherence of EBF by Nurses

Participants mentioned that Institutional challenges were found to be influencing the implementation of EBF as were shortage of staff and time to teach, lack of support, attitude of staff, lack of training and poor referral system.

❖ **Participant (P4) indicated:**

Jaa!! Shortage of staff, we don't have time to give health education to our clients. We are short staffed and overworked. We teach but is not enough, that's our challenge, you can't teach while the que is too long waiting for you, that supermarket approach is disturbing, maybe you will assist, not so?

❖ **Participant (P2) emphasized:**

Yes, those are our challenges, we don't have time to teach, workload and overworked, our government should do something about this. In our institution is worse, is not easy because we don't have enough time to teach and we are short staffed.

❖ **Participant (P17) also expressed that:**

Shortage of staff is a challenge we don't have time to g You know what we don't have good connection, I mean between hospital and clinics (PHC).

❖ **Participant (P10) mentioned:**

We have challenges here because we don't have enough staff to teach women about breastfeeding, there are long queues, we can't concentrate on teaching breastfeeding while we do have serious clients, like today we are only two professional nurses and is not possible for me to focus on teaching lactating mothers about breastfeeding am focusing on the sick clients, you see you waited for me since morning now is four pm because of long ques, we don't have choice.

❖ **Participant (P6) observed that:**

Short stay in the hospital-women stay for only three hours after delivery so, we don't have time to teach and observe breastfeeding.

4.4.3.4 Sub-Theme 3.4: Lack of Compliance to EBF by HIV-Positive Mothers Resulting from Fear of Infecting Infants

Participants alluded to factors related to mothers' illness such as HIV, late bookings and other breast problems that they thought influenced the implementation of EBF.

❖ **Participant (P3) said:**

Illness of the mother can influence cessation of breastfeeding just like lack of knowledge on the benefits and management of EBF by lactating mothers and their families.

❖ **Participant (P2) added that:**

Another challenge is those lactating mothers who are HIV-positive fear of transmission from mother to child.

❖ **Participant (P4) accentuated:**

Yes, HIV mothers have problems, if viral load is high, they fear of infecting their babies, illness or other chronic conditions of the mothers like breast problems, working far from home is another problem.

❖ **Per Participant (P5):**

Mothers' illness is a barrier, HIV-positive mothers, another thing you can teach and give them information, but their status is the barrier.

Jaa! HIV-positive mothers and chronic conditions mothers or those with breasts problems, HIV-positive mothers still have that perception to say if they can breastfeed their infant, they will infect their infants with HI virus. I think lack of knowledge, Yoo! So many things like their beliefs, culture and religion.

❖ **Participant (P17) alluded to this notion as:**

Another problem are those women who book late for ANC, they don't have information because of late coming, and insufficient breast milk, when the breast milk is not coming out, but it is rare, lack of knowledge of families like baby sitters. Mother and baby's illness, especially HIV-positive mothers, I told you about late booking cases.

4.4.3.5 Sub-Theme 3.5: Lack of Formal and Continuous Training for Nurses Viewed as Problematic for EBF Promotion Programme

Participants mentioned that lack of specialized knowledge of EBF among the nursing staff was found to be another institutional challenge to the successful implementation of EBF. For example, giving wrong contraceptives which reduces the secretion of breast milk.

❖ **Participant (P11) pointed out that"**

Although we don't have time to teach them, we also didn't receive any training on breastfeeding, I need just in-service training, I think I will do better.

❖ **Participant (P19) elaborated:**

You know, lack of knowledge of health care worker, I mean professional nurses. They usually give wrong method of family planning the method that reduces the secretion of breast milk.

❖ **Participant (P6) observed that:**

Lack of information of the mothers and health care workers, you know what? We don't have information; we don't have time to read the policies. Beliefs and our religion, we should follow our beliefs that we should give our babies anointing waters for protection and (Muthuso) herbs for our culture, you know? Many roles, lack of choice, we must follow our culture and obey our parents and our parents in law, you know, is not possible, what can we do, we can't force them, do you think is possible? Ohh!!

❖ **Participant (P10) indicated:**

I think our attitudes as nurses is not good when it comes to teaching mothers EBF especially after having been working under pressure. Some of the nurses do not have attitude to deal with pregnant women or lactating mothers who ignore instructions. They think they do it deliberately particularly those nurses who have not experienced pregnancy. When mother tell them, problems related to breastfeeding, they simply ignore or just act to dismiss the mothers. Teaching breastfeeding requires us to have focus and positive mind.

❖ **Participant (P19) affirmed the views expressed above:**

We have got challenges here because some of the staff members' attitudes. They just have negative attitudes towards giving health education. They are reluctant to give health education.

4.4.4 Theme 4: Explanations of the Identified Health Benefits of EBF

Several participants revealed two important benefits in implementing EBF, namely, health and financial benefits such as prevention of diseases and saving money respectively.

4.4.4.1 Sub-Theme 4.1: EBF Viewed as Beneficial to Family and Infants Themselves Leading to Infants' Development of Normal Milestones and Disease Prevention

- ❖ **Participant (P2) described how the benefits of breastfeeding are conveyed although with some challenges:**

Jaa! We teach them that breastfeeding is the best because it has antibodies that fight microorganisms, is always ready and cheap.

Women, we tell them that we don't want mixed feed to prevent diseases like diarrhoea, is cost affective, we teach them about the benefits of EBF for HIV-positive mothers we teach about PMTCT"...We tell them that if they are using bottles and teats is not good because bottles and teats can cause oral thrash because of poor hygiene so breast milk is always ready for the baby.

4.4.4.2 Sub-Theme 4.2: EBF Viewed as a Time and Money Saver for Mothers Which Could be Used for Family Issues

Participants highlighted EBF-derived financial benefits to the parents.

- ❖ **Participants (P1) and (P5) expressed this as follows:**

They also said their babies are free from diseases like diarrhoea and pneumonia, we don't use our money to consult doctors, and it also save government money. They emphasize that they save their money because they don't buy formula, sterilizers and bottles.

- ❖ **The same view was also expressed by Participant (P12):**

We encourage lactating mothers to exclusively breastfeed their infants for six months to reserve their money to buy other valuable house hold cores.

- ❖ **Participant (P5) illuminated that:**

Breast milk is cost effective-you don't buy milk, we teach them about the benefits, what else?

❖ **Participant (P8) added:**

On the benefits, we tell them that they benefits time and money because on breastfeeding there is no preparation and no need for money, breast milk is cheap because is always available. But if the mother is using formula, she need time to prepare milk to be used for the whole day ending up contaminated leading to diarrhoea and kwashiorkor resulting in death.

4.4.5 Theme 5: Perceived Measures to Promote EBF Suggested by Health Care Professionals

Health care workers suggested several possible activities which were categorized into Outreach programmes suggested to improve EBF and other health-related issues; Improvement of the on-going health education programme to encourage EBF and all related aspects suggested; and Establishment of support groups which will promote learning from one another regarding EBF suggested strategies.

4.4.5.1 Sub-Theme 5.1: Outreach Programmes Suggested to improve EBF and other Health-Related Issues

❖ **Participant (P1) perceived this theme as follows:**

I think both strategies are working, but door-to-door is more effective because when visiting their house hold monthly, we find the grannies and they are the ones who are responsible and influence the mothers, so we give them information on the importance of EBF.

❖ **Participant (P1) continued:**

Maybe by doing outreach and door-to-door health education, I mean to involve everyone in the family like fathers, grannies and the whole family. We need to come up with something that can improve existing strategies and that everyone will be motivated. What am suggesting is on-going education, door-to-door health education can assist and lactating mothers can be motivated by rewards, like to have an event to encourage lactating mothers to do EBF and we reward those who are doing well on EBF.

Awareness programmes through media and health education during ANC, capacity building, periodic check on lactating mothers, and health education to the primary, establish support group, promote mother mentorship. Yes, me, myself, I feel like giving health education to the primary level can promote EBF and support groups to the primary level is the best way.

❖ **Participant (P14) suggested:**

Let's try to do door-to-door campaigns or to follow ups to lactating mothers after discharge to monitor breastfeeding for six months at home.

❖ **Participant (P7) also intimated:**

Maybe to conduct outreach programmes such as door-to-door campaigns, teach about the benefits of EBF. To encourage those mothers who successfully manage to exclusively breastfeed their infants for six months to counsel others. We can also use mentor mothers to counsel mothers as we don't have much time to share information with the mothers.

❖ **Participant (P4) advocated**

Oh yes, I think to empower woman with knowledge on the importance of EBF, to have breastfeeding ambassadors to encourage other lactating mothers, to encourage establishment of support group and home visits.

4.4.5.2 Sub-Theme 5.2: Improvement of the On-Going Health Education Programme to Encourage EBF and All Related Aspects Suggested

Participants suggested that health education is the key to success.

❖ **Participant (P11) indicated:**

Teaching families and communities to support lactating mothers, in service training for health care workers, to conduct door-to-door campaign or to teach pregnant women along with their parents or relatives during ANC.

❖ **Participant (P19) said:**

Ok, lets continue to give health education to the community and family may that old strategy of visiting lactating mothers after discharge to monitor breastfeeding and hygiene; yes, I can recommend that strategy it was effective by then. Let's visit lactating mothers during puerperium.

❖ **Participants (P18) supported the above by saying:**

I think health education is a way to go, we don't teach them sufficient information, I think to invite family members with the pregnant women during ANC and teach them, lets involve community and families.

Yes, it is our duty, we need to teach parents and in-laws about breastfeeding to support lactating mothers and may be campaign will also help to put across the message to them.

❖ **Participant (P3) agreed that:**

Health education to the lactating mothers and families is the key to success, teaching them about feeding practices.

4.4.5.3 Sub-Theme 5.3: Establishment of Support Groups Which Will Promote Learning from One Another Regarding EBF Suggested Strategies

❖ **Participant (P1) said:**

During ANC, we should let pregnant women and lactating mothers support each other. Pregnant women and lactating mothers should be allowed to come together and encourage each other on EBF and other issues to do with babies. I think pregnant women are eager to learn from breastfeeding mothers at the same time breastfeeding mother like to talk about their experiences.

❖ **Participant (P10) believed that:**

To establish support group, to identify EBF ambassadors to encourage others and to award those who manage to maintain EBF.

4.5 Summary

This chapter described the qualitative results on the implementation of EBF with professional nurses in Limpopo Province and the identified challenges they experienced when implementing EBF. The themes and sub-themes which emerged during analysis were described in detail.

CHAPTER 5

PRESENTATION AND INTERPRETATION OF QUANTITATIVE DATA

5.1 Introduction

The quantitative phase of this study was to determine factors that contribute to the implementation of EBF in Limpopo Province. Data was collected from 399 respondents through a close-ended questionnaire. Data was processed using SPSS Version 26.0. Results were presented as frequency distribution tables, graphs, descriptive statistics and correlations.

5.2 Section A: Socio-Demographic Variables

Table 5.1 summarizes socio-demographic characteristics of the lactating mothers who responded to the questionnaires. The results show that the majority (55%) of the respondents were aged 18 to 23 years, 25% were 24 to 31 years and the minority (19.5%) were aged 32 to 40 years. Regarding marital status, the results show that nearly 51% were single mothers, 43% were married and 6% were divorcees. The finding shows that nearly the majority 51% of the respondents were single. For employment, the results show that most of the respondents (72.7%) were not formally employed compared to 27.3% who were employed. The finding is that most of the respondents were not employed. In terms of educational qualifications, 48.4% had secondary education and 45.1% had tertiary education.

The finding was that the sample used was highly literate with 93.5% of the respondents with mainly secondary and tertiary education.

Table 5.1: Demographic information of respondents

Demographic	Frequency	Percent (%)
Age range of respondents in years		
18 to 23	221	55.4
24 to 31	100	25.1
32 to 40	78	19.5
Total	399	100
Marital status		
Single	203	50.9
Married	172	43.1
Divorced	24	6
Total	399	100
Employed		
Yes	109	27.3
No	290	72.7
Total	399	100
Level of education		
No formal education	16	4.0
Primary education	10	2.5
Secondary education	193	48.4
Tertiary education	180	45.1
Total	399	100

Figure 5.1 shows the results for the number of children for the investigated sample.

The findings show that 35.8% of the respondents had one and 38.6% had two children.

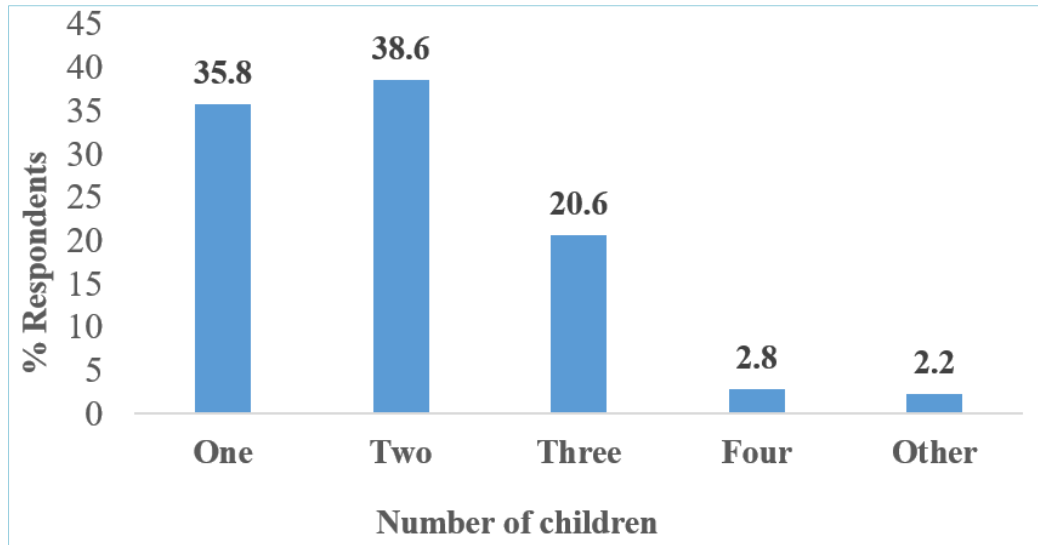


Figure 5.1: Distribution of number of children

Figure 5.2 shows that results of the distribution of the ages of the infants of the respondents. Thus, 37.1% had six-month old infants and 23.6% five-month olds. The results show that the respondents (77%) had infants between the ages of three and six months.

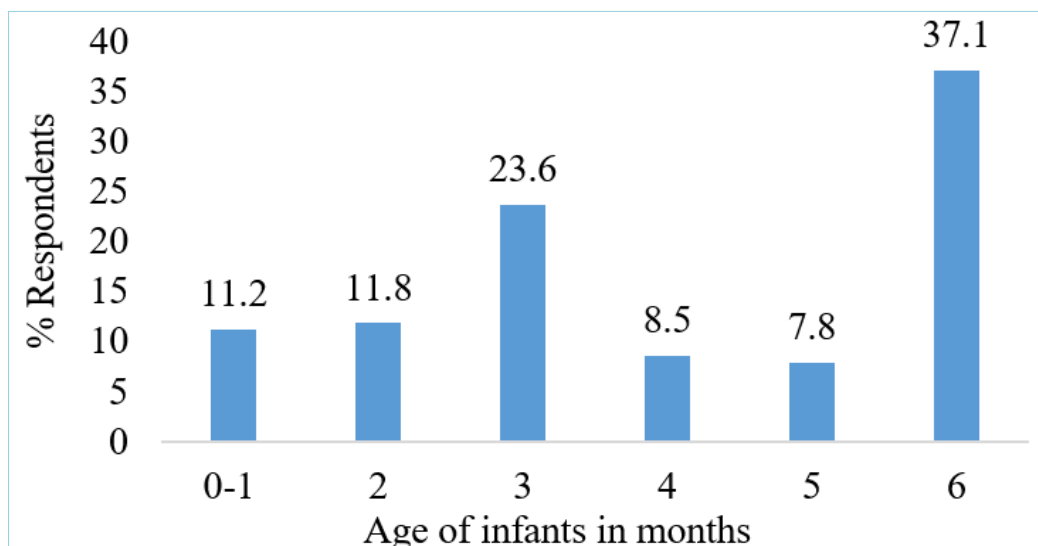


Figure 5.2: Infants' ages

Figure 5.3 shows that the respondents (56%) indicated that their infants were female and 44% indicated that their infants were males.

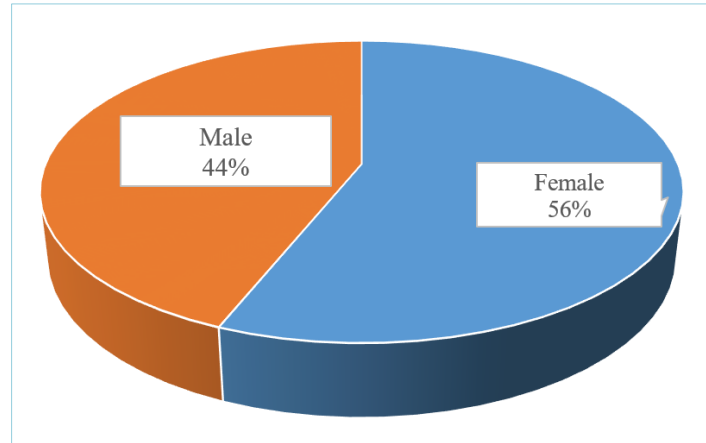


Figure 5.3: Infants' gender

The results in Figure 5.4 show that the respondents (96%) gave birth at a health care facility, few (2%) gave birth at home and 2% did not specify their place of delivery. The finding was that majority of the respondents gave birth at a health facility.

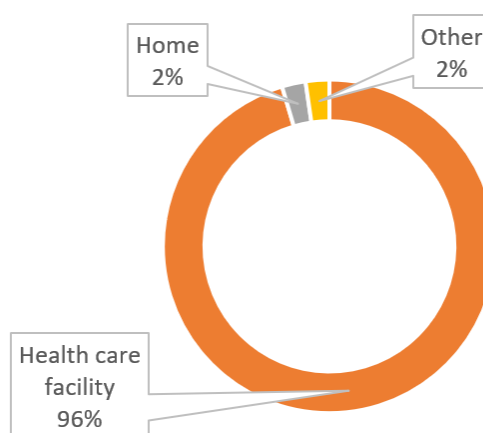


Figure 5.4: Distribution of respondents by place of birth of their infants

Results for the mode of delivery in Figure 5.5 show that majority of the respondents (80%) indicated normal delivery and the minority (20%) gave birth by Caesarean.

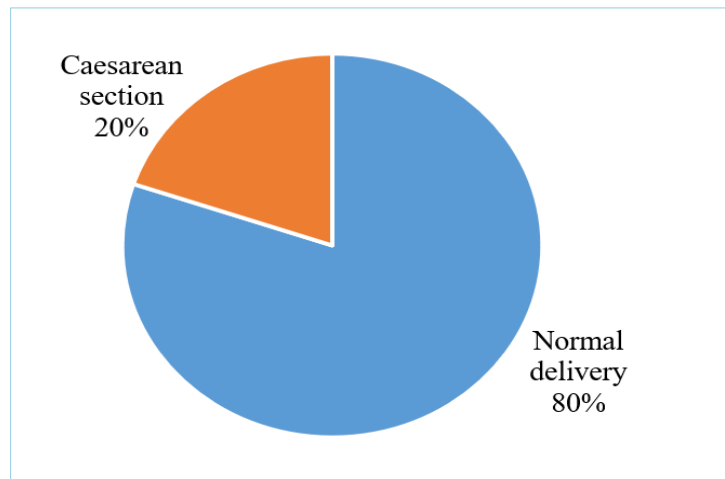


Figure 5.5: Mode of delivery among respondents

5.3 Section B: Factors Contributing to the Implementation of EBF

WHO and Uncef recommended that infants should initiate breastfeeding within an hour after birth (WHO,2014), Figure 5.6 shows varying initiation times for breastfeeding among the respondents with the majority (54.6%) indicating that they initiated breastfeeding their babies within the first 30 minutes, 28.3% initiated breastfeeding within the first hour after giving birth, 14.0% started breastfeeding on the following day of giving birth, and 3% did not specify when they initiated breastfeeding. The finding was that the majority of the respondents (83%) initiated breastfeeding within the first hour of giving birth.

Concerning who assisted the mothers to initiate breastfeeding after giving birth, the results in Figure 5.7 show that the majority (87%) of the respondents were assisted by a nurse to initiate breastfeeding, 6% were assisted by doctors and 7% did not

specify who assisted them to initiate breastfeeding. The finding was that 93% of the respondents were assisted to initiating breastfeeding mainly by nurses compared to doctors: therefore, nurses played a more important role in assisting mothers to initiate breastfeeding than doctors.

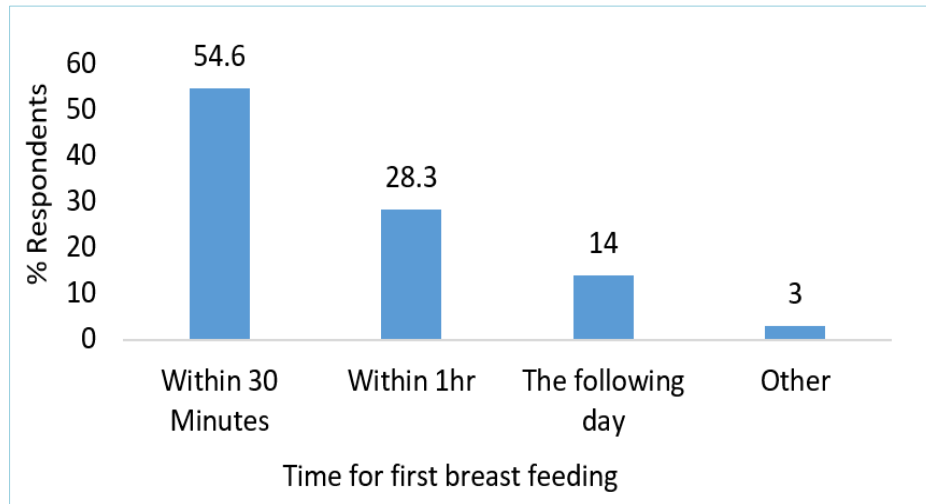


Figure 5.6: Timeframe within which the first breastfeeding took place after birth

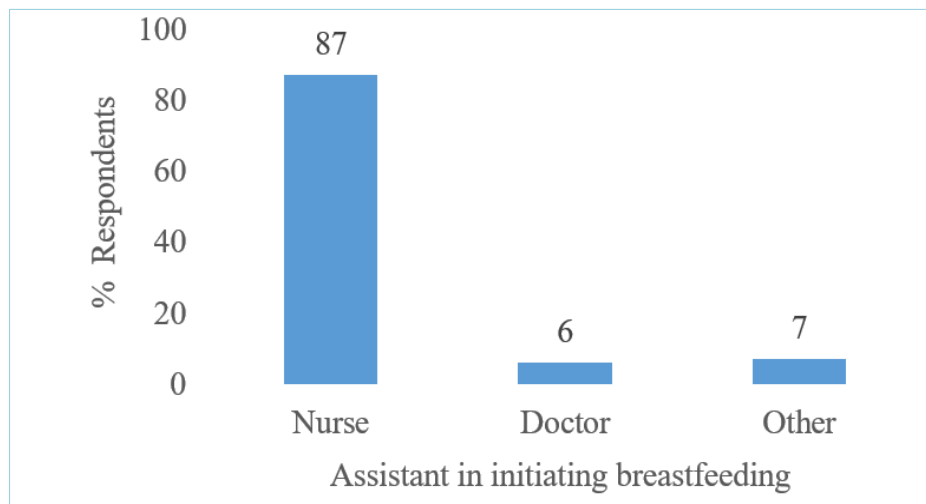


Figure 5.7: Assistants in initiating breastfeeding

Figure 5.8 shows that the respondents (79%) were taught how to breastfeed while 21% were not taught. The finding reveals that almost all mothers were taught about EBF.

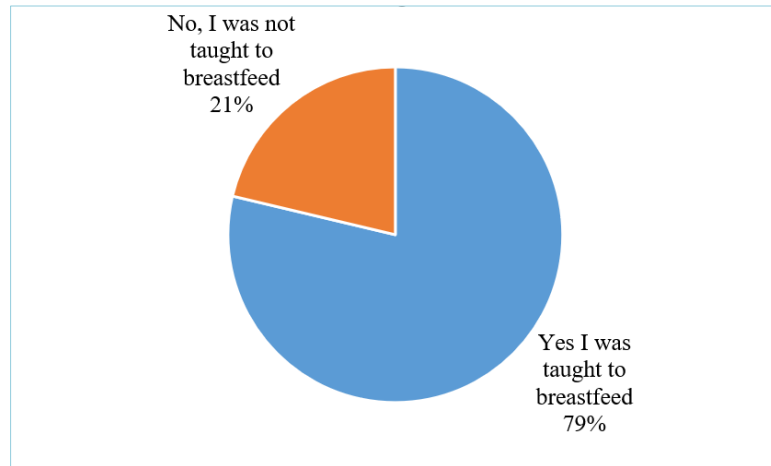


Figure 5.8: Respondents taught to breastfeed

Figure 5.9 shows that 71% of the respondents were taught breastfeeding by health care workers, 6% by parents/parent's in-law and 2% by radio, but 21% did not specify. The finding shows that health workers provided most of the breastfeeding education to lactating mothers in Limpopo Province.

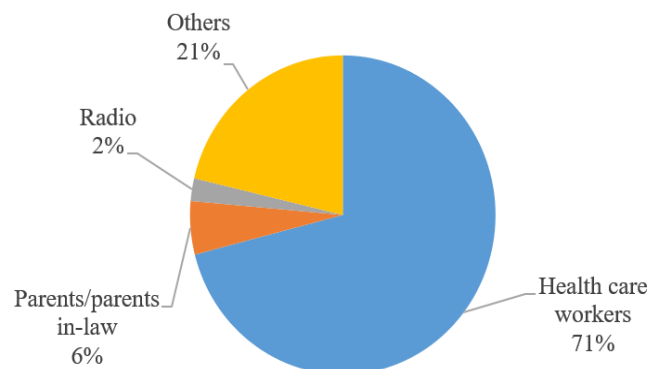


Figure 5.9: Providers of breastfeeding teaching

Results in Table 5.2 show the status of breastfeeding (n=399), the age at which breastfeeding was discontinued (n=112) and the reasons for discontinuing breastfeeding (n=104).

Table 5.2: Status of breastfeeding, age of infants breastfeeding stopped and the reasons for stopping breastfeeding

Item	Frequency	%
Still Breastfeeding (n=399)		
Yes	287	71.9
No	112	28.1
Total	399	100
Age of baby when stopped breastfeeding (n=112)		
0-1 Month	35	31.3
1-3 Months	66	58.9
4-5 Months	3	2.7
Abstained	8	7.1
Total	112	100
Reasons for stopping breastfeeding (n=104)		
Going back to work	60	57.7
Medical condition	25	24
Going back to school	6	5.8
The baby refused the breast	2	1.9
Other, specify	11	10.6
Total	104	100

The results show that 72% of the respondents continued to breastfeed and 112 (28%) were no longer breastfeeding. Of the 112 respondents who had stopped

breastfeeding, 31.3% did so when the babies were just one month old, 58.9% stopped within one to three months, 2.7% within four to five months of the baby's age, 7.1% did not indicate at which age of the baby they stopped to breastfeed. The findings suggest that breastfeeding mothers were more likely to stop breastfeeding when their babies were three months old. Of the 104 respondents who indicated the ages of their babies when they stopped breastfeeding, the majority (57.7%) indicated that they did so because they resumed work, 24.0% indicated a medical condition, 5.8% indicated that they went back to school, 1.9% stated that their babies refused the breast, and 10.5% did not specify the reasons for stopping breastfeeding.

The finding was that 28% of the mothers stopped breastfeeding of which the majority did so within five months after giving birth; those who stopped breastfeeding (58.9%) did so when the babies were between one and three months old, the main reason cited was going back to work (57.7%). This implies that employment and medical conditions of breastfeeding mothers negatively affected EBF.

The results in Table 5.3 summarize alternative feeding to the infants, the reason for giving the liquids/foods and the advisors of the mothers. The findings were that the majority (72.9%) of the mothers practised mixed feeding and the minority (27.1%) practised EBF. It was also found that 38.5% of mothers gave water to their infants, 30.2% were giving soft porridge, 26.1% formula, and 5.2% did not specify the food given. There were no clear major reasons for mixed feeding though insufficient breast milk for the baby was mentioned by 32.6% of the respondents, while religious and cultural beliefs (21.9%), as well as poor lactation (7.6%) appeared to be additional factors influencing alternative feeding.

Table 5.3: Liquids and foods given to the baby, the reasons, and the advisor to the mothers

Item	Frequency	Percent
<i>Gave your baby other food or liquid like juice apart from breast milk (n=399)</i>		
Yes (Mixed feeding)	291	72.9
No (EBF)	108	27.1
Total	399	100
<i>Liquid given to baby (n=291)</i>		
Water	112	38.5
Soft porridge	88	30.2
Formula	76	26.1
Other	15	5.2
Total	291	100
<i>Reasons for introducing other food or liquid other than breast milk (n=291)</i>		
Breast milk was not enough for the baby	95	32.6
Religious and cultural beliefs	64	21.9
Milk was not coming out	22	7.6
Illness of the baby	40	13.7
Illness of the mother	58	19.9
Baby was crying	12	4.1
Total	291	100
<i>Advisor to give your child other food/fluid other than breast milk (n=291)</i>		
Parents/ Parents in law	142	48.7
Own decision	63	21.6
Health care workers	39	13.4
Baby' father	34	11.6
Relatives	8	2.7
Other	5	1.7
Total	291	100

The finding was that all the reasons were valid, but the most compelling ones were not enough breast milk and religious and cultural beliefs and illness of the mother. It was also found that 48.7% of the respondents were advised by their parents or parents-in-law to practice mixed feeding while 21.6% of respondents decided to act on their own. Advice from whereas health care workers (13.4%) and fathers of the babies (11.6%) was found to be contributing less than what was expected. Poor lactation by mothers and traditional beliefs held by mothers and parents/parents-in-law were major factors affecting the implementation of EBF in Limpopo Province. Unprofessional advice was also used to make crucial decisions on mixed feeding as health care workers

Figure 5.10 shows results on who influenced mothers on adopting a certain type of feeding. Mothers in-law/parents had the most influence as indicated by 31.8% of the respondents, 30.8% of the respondents indicated that they made their own decisions on which type of feeding style to use, health workers influenced 22.6%, while 13.8% of the respondents were influenced by their husbands/spouses.

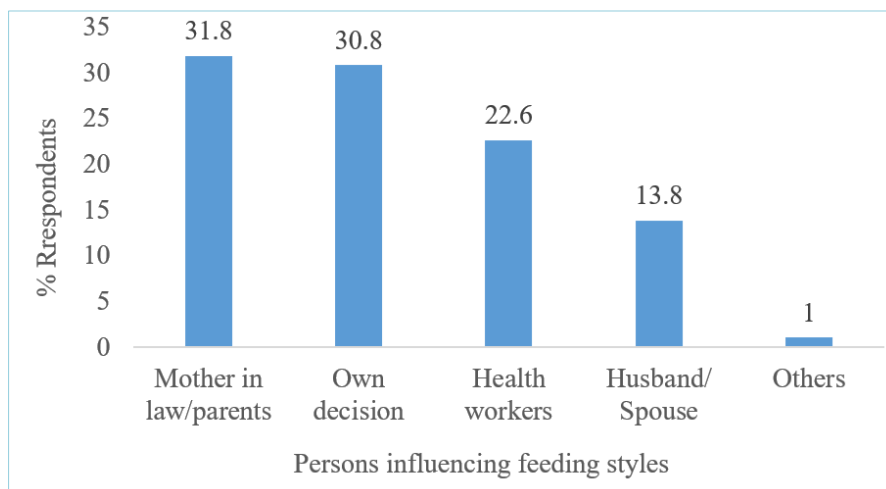


Figure 5.10: Persons who influenced respondents on feeding styles

The results in Table 5.4 show that most of the respondents (86.0%) attended ANC only 14.0% did not; 73.9% had been talked to about breastfeeding by someone and 26.1% were not talked to; 60.4% had heard about EBF unlike 39.6% who had not, 61.2% have been told about the benefits of EBF and 38.8% were not told; only the 35.6% of the respondents were referred to mentor mothers on discharge by health workers and the majority 64.4% were not.

Besides the information about community mentors, the findings show that most of the mothers had enough information about key aspects needed to practice EBF during ANC.

Table 5.4: Results of several key variables

Variables	Response	Frequency	Percent
Attendance of pregnancy Ante-Natal Clinic	Yes	343	86.0
	No	56	14.0
	Total	399	100
Any one talked to you about breastfeeding	Yes	295	73.9
	No	104	26.1
	Total	399	100
Did you hear about EBF	Yes	241	60.4
	No	158	39.6
	Total	399	100
Any one talk about the benefits of EBF during ANC	Yes	244	61.2
	No	155	38.8
	Total	399	100
Referred to community support/mentor mothers on discharge by health care workers	Yes	142	35.6
	No	257	64.4
	Total	399	100

5.4 Chi-Square Analysis of Factors Influencing Implementation of EBF

Chi-square tests to check the presence and strength of association and the statistical significance were defined at a probability level of 5% and conducted for selected variables. Only results where there was a significance level of $p < 0.05$ are presented and reported on.

Table 5.5 shows that the time taken to initiate breastfeeding was significantly associated with the age of the lactating mother ($n=399$, Chi-Square 32.540, $df=6$, $p=0.000$) with younger mothers 16 to 23 years of age (52.5%) and 24 to 32 years of age (67.0%) more likely to initiate breastfeeding within the first 30 minutes compared to older mothers (44.9%). Pearson's correlation coefficient of -0.102 at $p < 0.043$ confirmed a relationship between the age of the mothers and time taken to initiate breastfeeding, indicating that younger mothers were less likely to start breastfeeding than their older counterparts. As the age on mothers increased the tendency to start breastfeeding a newborn baby also increased.

Table 5.6 indicates that there was a significant association between marital status and the time within which breastfeeding was initiated at $p < 0.05$ ($X^2=127.592$, $df=6$, $p=0.00$, $n=399$) Sixty-five comma one percent (65.1%) of married mothers were likely to initiate breastfeeding with 30 minutes of giving birth compared to 52.2% of single mothers and 0% of divorced mothers. Table 5.7 shows a significant association between age of mother and the time taken to stop breastfeeding ($X^2=26.665$; $df=4$; $p=0.00$, $n=104$), show that 61.5% mothers aged between 24 and 31 were more likely to stop breastfeeding within 0 to 1 month's compare to 67.9% of mothers aged 16 to 23 and 81.8% of those aged 32 to 40 years who preferred to stop within one to three

months.

Table 5.5: Age of mother* Q10 Time taken to start breastfeeding cross-tabulation

Q10_Start_breastfeeding (n=399)							Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Age (Years)		Within 30 Minutes	Within 1 hr	The following day	Other specify	Total			
16 to 23	Count	116	53	40	12	221	32.540 ^a	6	0.000
	Expected Count	120.7	62.6	31.0	6.6	221			
	% Within Q1 Age	52.5%	24.0%	18.1%	5.4%	100%			
24 to 31	Count	67	23	10	0	100			
	Expected Count	54.6	28.3	14.0	3.0	100			
	% Within Q1 Age	67.0%	23.0%	10.0%	0.0%	100%			
32 to 40	Count	35	37	6	0	78			
	Expected Count	42.6	22.1	10.9	2.3	78			
	% Within Q1 Age	44.9%	47.4%	7.7%	0.0%	100%			
Total	Count	218	113	56	12	399			
	Expected Count	218.0	113.0	56.0	12.0	399			
	% Within Q1 Age	54.6%	28.3%	14.0%	3.0%	100%			

Table 5.6: Q2 Marital status* Q10 Time taken to start breastfeeding

Q10_Start_breastfeeding (n=399)							Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q2 Marital status		Within 30 Minutes	Within 1 hr	The following day	Other specify	Total			
Single	Count	106	32	53	12	203	127.592 ^a	6	0.000
	Expected Count	110.9	57.5	28.5	6.1	203			
	% Within Q2 Marital status	52.2%	15.8%	26.1%	5.9%	100%			
Married	Count	112	57	3	0	172			
	Expected Count	94.0	48.7	24.1	5.2	172			
	% Within Q2 Marital status	65.1%	33.1%	1.7%	0.0%	100%			
Divorced	Count	0	24	0	0	24			
	Expected Count	13.1	6.8	3.4	0.7	24			
	% Within Q2 Marital status	0.0%	100%	0.0%	0.0%	100%			
Total	Count	218	113	56	12	399			
	Expected Count	218.0	113.0	56.0	12.0	399			
	% Within Q2 Marital status	54.6%	28.3%	14.0%	3.0%	100%			

Table 5.7: Q1 Age of mother* Q15 Time taken to stop breastfeeding

Q15_Stopped_breastfeeding (n=104)						Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q1 Age		0-1 Months	1-3 Months	4-5 Months	Total			
16 to 23	Count	18	38	0	56	26.665 ^a	4	0.000
	Expected Count	18.8	35.5	1.6	56.0			
	% Within Q1 Age	32.1%	67.9%	0.0%	100%			
24 to 31	Count	16	10	0	26			
	Expected Count	8.8	16.5	0.8	26.0			
	% Within Q1 Age	61.5%	38.5%	0.0%	100%			
32 to 40	Count	1	18	3	22			
	Expected Count	7.4	14.0	0.6	22.0			
	% Within Q1 Age	4.5%	81.8%	13.6%	100%			
Total	Count	35	66	3	104			
	Expected Count	35.0	66.0	3.0	104.0			
	% Within Q1 Age	33.7%	63.5%	2.9%	100%			

Table 5.8: Age* Q16 Reason for stopping breastfeeding

Q16_Reason_for_stopping_breastfeeding (n=104)								Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q1 Age		Going back to school	Going back to work	Medical condition	Other	The baby refuses the breast	Total			
16 to 23	Count	4	35	8	9	0	56	28.951 ^a	8	0.000
	Expected Count	3.2	32.3	12.9	5.9	1.6	56.0			
	% Within Q1 Age	7.1%	62.5%	14.3%	16.1%	0.0%	100%			
24 to 31	Count	0	9	13	1	3	26			
	Expected Count	1.5	15.0	6.0	2.8	0.8	26.0			
	% Within Q1 Age	0.0%	34.6%	50.0%	3.8%	11.5%	100%			
32 to 40	Count	2	16	3	1	0	22			
	Expected Count	1.3	12.7	5.1	2.3	0.6	22.0			
	% Within Q1 Age	9.1%	72.7%	13.6%	4.5%	0.0%	100%			
Total	Count	6	60	24	11	3	104			
	Expected Count	6.0	60.0	24.0	11.0	3.0	104.0			
	% Within Q1 Age	5.8%	57.7%	23.1%	10.6%	2.9%	100%			

The results in Table 5.8 show a significant association at $p < 0.05$ ($X^2 = 28.951$, $df = 8$),

$p=0.00$, $n=104$), between the age of the mothers and the reasons for stopping breastfeeding, with going back to work being the prominent reason among 72.7% of the mothers aged 32 to 40 compared to 62.5% and 34.6% in the age ranges 16 to 23 and 24 to 31 years old. Mothers in the age range 24 to 34 were more likely to stop breastfeeding due to medical issues. The finding was that going back to work was a significant factor ($p<0.00$) influencing mothers in the age range 16 to 31 to stop breastfeeding.

The results in Table 5.9 show a significant association ($X^2=13.752$, $df=4$, $p=0.008$, $n=104$) between marital status and the time when breastfeeding was stopped, 48.8% of single mothers were more likely to stop breastfeeding within 0 to 1 month compared to 28% of married mothers. Most of the divorced women were more likely to stop breastfeeding within the 3rd and 4th months after given birth compared to single and married mothers. These results confirm that marital status was a factor influencing the duration when which breastfeeding was discontinued after birth among mothers of newborn babies.

The results in Table 5.10 show a significant association at $p<0.001$ ($X^2=70.453$, $df=8$, $p=0.000$, $n=104$) between marital status and the reason for stopping breastfeeding with 67.4% of single mothers likely to stop breastfeeding to go back to work compared to 58.0% of married mothers and 18.2% of divorced mothers. The finding was that single mothers were more likely to stop breastfeeding to go back to work to fend for the family and probably due to independence in decision making.

Table 5.9: Marital status* Q15 Time within which breastfeeding was stopped

Q15_stopped_breastfeeding (n=104)						Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q2 Marital status		0-1 Months	1-3 Months	4-5 Months	Total			
Divorced	Count	0	11	0	11	13.752 ^a	4	0.008
	Expected Count	3.7	7.0	0.3	11.0			
	% Within Q2 Marital status	0.0%	100%	0.0%	100%			
Married	Count	14	33	3	50			
	Expected Count	16.8	31.7	1.4	50.0			
	% Within Q2 Marital status	28.0%	66.0%	6.0%	100%			
Single	Count	21	22	0	43			
	Expected Count	14.5	27.3	1.2	43.0			
	% Within Q2 Marital status	48.8%	51.2%	0.0%	100%			
Total	Count	35	66	3	104			
	Expected Count	35.0	66.0	3.0	104.0			
	% Within Q2 Marital status	33.7%	63.5%	2.9%	100%			

Table 5.10: Marital status* Q16 Reason for stopping breastfeeding

Q16_Reason for stopping breastfeeding								Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q2_Marital status		Going back to school	Going back to work	Medical condition	The baby refused the breast	Other	Total			
Divorced	Count	0	2	0	0	9	11	70.453 ^a	8	0.000
	Expected Count	0.6	6.3	2.5	0.3	1.2	11.0			
	% Within Q2_Marital status	0.0%	18.2%	0.0%	0.0%	81.8%	100%			
Married	Count	4	29	12	3	2	50			
	Expected Count	2.9	28.8	11.5	1.4	5.3	50.0			
	% Within Q2_Marital status	8.0%	58.0%	24.0%	6.0%	4.0%	100%			
Single	Count	2	29	12	0	0	43			
	Expected Count	2.5	24.8	9.9	1.2	4.5	43.0			
	% Within Q2_Marital status	4.7%	67.4%	27.9%	0.0%	0.0%	100%			
Total	Count	6	60	24	3	11	104			
	Expected Count	6.0	60.0	24.0	3.0	11.0	104.0			
	% Within Q2_Marital status	5.8%	57.7%	23.1%	2.9%	10.6%	100%			

In Table 5.11, the Chi-Square results show a significant association at $p < 0.05$ between the time taken to initiate breastfeeding and the mode of delivery ($X^2 = 39.177$, $df = 3$,

$p=0.000$, $n=399$). The finding was that 57.8% of the mothers who delivered normally were likely to initiated breastfeeding within the first 30 minutes of giving birth compared to 41.8% of mothers who underwent caesarean section. A weak correlation, Pearson coefficient 0.169 at $p=0.001$ shows that time taken to initiate breastfeeding was directly associated with the normal mode of delivery among the mothers in the district. This implies that, mothers who underwent caesarean section were likely to delay starting breastfeeding.

Table 5.11: Q9 Mode of delivery* Q10 Start breastfeeding cross-tabulation

Q10_Time taken to start breastfeeding							Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q9_Mode_delivery		Within 30 Minutes	Within 1 hr	The following day	Other specify	Total			
Caesarean	Count	33	18	28	0	79	39.177 ^a	3	0.000
	Expected Count	43.2	22.4	11.1	2.4	79.0			
	% Within Q9_Mode_delivery	41.8%	22.8%	35.4%	0.0%	100%			
Normal delivery	Count	185	95	28	12	320			
	Expected Count	174.8	90.6	44.9	9.6	320.0			
	% Within Q9_Mode_delivery	57.8%	29.7%	8.8%	3.8%	100%			
Total	Count	218	113	56	12	399			
	Expected Count	218.0	113.0	56.0	12.0	399.0			
	% Within Q9_Mode_delivery	54.6%	28.3%	14.0%	3.0%	100%			

The Chi-square results in Table 5.12 show dependency between the time taken to initiate breastfeeding and the time when it was stopped taken to stop it, $X^2=28.592$, $df=4$, $P<0.001$, $n=104$; among mothers who had stopped breastfeeding. Results show that 56.4% of mothers who initiated breastfeeding within 30 minutes or 100% of those who initiated breastfeeding within an hour were likely to longer before stopping.

Table 5.12: Q10 Start breastfeeding* Q15 stopped breastfeeding cross-tabulation

		Q15_Time taken to stop breastfeeding				Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q10_Time taken to start breastfeeding		0-1 Months	1-3 Months	4-5 Months	Total			
The following day	Count	11	10	3	24	28.592 ^a	4	0.000
	Expected Count	8.1	15.2	0.7	24.0			
	% Within Q10_Start_breastfeeding	45.8%	41.7%	12.5%	100%			
Within 1hr	Count	0	25	0	25			
	Expected Count	8.4	15.9	0.7	25.0			
	% Within Q10_Start_breastfeeding	0.0%	100%	0.0%	100%			
Within 30 Minutes	Count	24	31	0	55			
	Expected Count	18.5	34.9	1.6	55.0			
	% Within Q10_Start_breastfeeding	43.6%	56.4%	0.0%	100%			
Total	Count	35	66	3	104			
	Expected Count	35.0	66.0	3.0	104.0			
	% Within Q10_Start_breastfeeding	33.7%	63.5%	2.9%	100%			

Table 5.13: Q15 Time stopped breastfeeding* Q16 The reason for stopping breastfeeding

		Q16_reason_stop						Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q15 stopped breastfeeding		Going back to school	Going back to work	Medical condition	Other	The baby refuses the breast	Total			
0-1 Months	Count	2	9	19	2	3	35	54.059	8	0.000
	Expected Count	2.0	20.2	8.1	3.7	1.0	35.0			
	% Within Q15_stopped_breast feeding	5.7%	25.7%	54.3%	5.7%	8.6%	100%			
1-3 Months	Count	4	51	2	9	0	66			
	Expected Count	3.8	38.1	15.2	7.0	1.9	66.0			
	% Within Q15_stopped_breast feeding	6.1%	77.3%	3.0%	13.6%	0.0%	100%			
4-5 Months	Count	0	0	3	0	0	3			
	Expected Count	0.2	1.7	0.7	0.3	0.1	3.0			
	% Within Q15_stopped_breast feeding	0.0%	0.0%	100%	0.0%	0.0%	100%			
Total	Count	6	60	24	11	3	104			
	Expected Count	6.0	60.0	24.0	11.0	3.0	104.0			
	% Within Q15_stopped_breast feeding	5.8%	57.7%	23.1%	10.6%	2.9%	100%			

The results in Table 5.13 show that the reasons given for stopping breastfeeding were significantly associated with the time when breastfeeding were stopped breastfeeding for $X^2=54.059$, $df=8$, $p=0.000$, $n=104$ (77.3%) of the mothers who stopped breastfeeding with one to three months apportioned this to the need to go back to work compared to 25.7% who weaned in the first months for the same reason. Other than returning to work, more babies were weaned due to a medical condition for before a full month after their birth than between the 4th and 5th months.

Table 5.14 depicts that the tendency of lactating mothers to continue breastfeeding was significantly with associated and time taken to initiate breastfeeding at $p=0.009$ with $X^2=11.691$ and $df=3$. The results reveal that 74.5% of the mother who initiated breastfeeding within 30 minutes after birth were more likely to continue breastfeeding than 57.1% of the mothers who initiated breastfeeding a day later.

The results in Table 5.15 ($X^2=0.605$, $df=1$, $p=0.436$, $n=399$) show that there no association between being taught about breastfeeding and continuing breastfeeding. There was no significant association between continuing breastfeeding and the teaching of breastfeeding at $p<0.05$.

As shown in Table 5.16, the association between qualification and having been talked to about breastfeeding was highly significant at $p=0.00$, with $X^2=42.401$, $df=3$ and $n=399$. Mothers with primary education or no formal education were more highly likely to have been talked to (100%) than those with secondary 59.6% and tertiary education and 85.6% respectively. The finding was that mothers with low academic qualification received more talk on breastfeeding than those with a higher qualification.

Table 5.14: Q10 Start breastfeeding* Q14 still breastfeeding cross-tabulation

Q14_still_breastfeeding					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q10_Start_breastfeeding		Yes	No	Total			
Other specify	Count	12	0	12	11.691 ^a	3	0.009
	Expected Count	8.6	3.4	12.0			
	% Within Q10_Start_breastfeeding	100%	0.0%	100%			
The following day	Count	32	24	56			
	Expected Count	40.3	15.7	56.0			
	% Within Q10_Start_breastfeeding	57.1%	42.9%	100%			
Within 1hr	Count	80	33	113			
	Expected Count	81.3	31.7	113.0			
	% Within Q10_Start_breastfeeding	70.8%	29.2%	100%			
Within 30 minutes	Count	163	55	218			
	Expected Count	156.8	61.2	218.0			
	% Within Q10_Start_breastfeeding	74.8%	25.2%	100%			
Total	Count	287	112	399			
	Expected Count	287.0	112.0	399.0			
	% Within Q10_Start_breastfeeding	71.9%	28.1%	100%			

Table 5.15: Q12 Taught breastfeeding* Q14 still breastfeeding cross-tabulation

Q 14_still_breastfeeding					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q12_taught_breastfeeding		Yes	No	Total			
No	Count	64	21	85	0.605 ^a	1	0.436
	Expected Count	61.1	23.9	85.0			
	% Within Q12_taught_breastfeeding	75.3%	24.7%	100%			
Yes	Count	223	91	314			
	Expected Count	225.9	88.1	314.0			
	% Within Q12_taught_breastfeeding	71.0%	29.0%	100%			
Total	Count	287	112	399			
	Expected Count	287.0	112.0	399.0			
	% Within Q12_taught_breastfeeding	71.9%	28.1%	100%			

The findings of the study indicate mothers with low education level perceived information on EBF differently from those with higher education qualification.

Table 5.16: Q5 Qualification* Q23 talk breastfeeding cross-tabulation

Q23_talk_breastfeeding					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q5_Qualification		No	Yes	Total			
Primary education	Count	0	10	10	42.401 ^a	3	0.000
	Expected Count	2.6	7.4	10.0			
	% Within Q5_Qualification	0.0%	100%	100%			
No formal education	Count	0	16	16			
	Expected Count	4.2	11.8	16.0			
	% Within Q5_Qualification	0.0%	100%	100%			
Secondary education	Count	78	115	193			
	Expected Count	50.3	142.7	193.0			
	% Within Q5_Qualification	40.4%	59.6%	100%			
Tertiary education	Count	26	154	180			
	Expected Count	46.9	133.1	180.0			
	% Within Q5_Qualification	14.4%	85.6%	100%			
Total	Count	104	295	399			
	Expected Count	104.0	295.0	399.0			
	% Within Q5_Qualification	26.1%	73.9%	100%			

In Table 5.17, the X^2 of 19.508, at $P < 0.001$, with $df=2$, shows a significant association between the employment of mothers and the benefits of EBF; 65.2% of unemployed mothers were aware of the benefits of breastfeeding compared to 48.8% of employed mothers. The finding shows that unemployed mothers were more likely to prolong EBF because they remain with their infants while the employed lactating mothers are going back to work. In Table 5.18, the X^2 of 23.380, at $P < 0.001$, with $df=1$, shows that there is a significant association between being taught breastfeeding and hearing someone talking about EBF, 66.6% of mothers who were taught breastfeeding have also heard someone talking about EBF compared to 37.6% of mothers were not taught breastfeeding but heard about EBF. The findings were that there were always high chances for those who taught mothers about breastfeeding to talk about EBF. he results show that the knowledge of EBF was acquired by others means than teaching.

Table 5.17: Q4 Working * Q26 ANC EBF cross-tabulation

Q26_ANC_EBF						Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q4_Working		No	Yes	Total				
No	Count	0	101	189	290	19.508 ^a	2	0.000
	Expected Count	2.9	112.7	174.4	290.0			
	% Within Q4_Working	0.0%	34.8%	65.2%	100%			
Yes	Count	4	54	51	109			
	Expected Count	1.1	42.3	65.6	109.0			
	% Within Q4_Working	3.7%	49.5%	46.8%	100%			
Total	Count	4	155	240	399			
	Expected Count	4.0	155.0	240.0	399.0			
	% Within Q4_Working	1.0%	38.8%	60.2%	100%			

Table 5.18: Q12 Taught breastfeeding* Q24 EBF cross-tabulation

Q24_EBF Having heard					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q12_taught_breastfeeding		No	Yes	Total			
No	Count	53	32	85	23.380 ^a	1	0.000
	Expected Count	33.7	51.3	85.0			
	% Within Q12_taught_breastfeeding	62.4%	37.6%	100%			
Yes	Count	105	209	314			
	Expected Count	124.3	189.7	314.0			
	% Within Q12_taught_breastfeeding	33.4%	66.6%	100%			
Total	Count	158	241	399			
	Expected Count	158.0	241.0	399.0			
	% Within Q12_taught_breastfeeding	39.6%	60.4%	100%			

Table 5.19 shows that a significant link exists between being taught breastfeeding and mentioning of the benefits of EBF, with $X^2=53.065$, $df =2$, $P<0.001$ and $n=399$. The results show that 69.1% of mothers who were taught breastfeeding were also familiar with the benefits of EBF compared to 37.6% of those who were not taught breastfeeding. The finding was that there were higher chances for those taught about breastfeeding to be aware of the benefits of EBF whenever some mentioned them

explicitly or implicitly.

Table 5.19: Q12 Taught breastfeeding* Q26 Benefits of EBF cross-tabulation

Q26_ANC_exclusivebreastfeeding						Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q12_taught_breastfeeding		No	Yes	Total				
No	Count	0	62	23	85	53.065 ^a	2	0.000
	Expected Count	0.9	33.0	51.1	85.0			
	% Within Q12_taught_breastfeeding	0.0%	72.9%	27.1%	100%			
Yes	Count	4	93	217	314			
	Expected Count	3.1	122.0	188.9	314.0			
	% Within Q12_taught_breastfeeding	1.3%	29.6%	69.1%	100%			
Total	Count	4	155	240	399			
	Expected Count	4.0	155.0	240.0	399.0			
	% Within Q12_taught_breastfeeding	1.0%	38.8%	60.2%	100%			

In Table 5.20, the X^2 value of 69.754, at $P < 0.001$, with $df=1$, shows a significant association between breastfeeding being talked about and EBF being mentioned, 72.5% of the mothers who heard someone talking about breastfeeding also heard EBF being mentioned. The results show that it was highly possible for any one talking about breastfeeding to mention EBF and its benefits.

Table 5.20: Q23 Talk breastfeeding* Q24 EBF cross-tabulation

Q24_EBF					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q23_talk_breastfeeding		No	Yes	Total			
No	Count	77	27	104	69.754 ^a	1	0.000
	Expected Count	41.2	62.8	104.0			
	% Within Q23_talk_breastfeeding	74.0%	26.0%	100%			
Yes	Count	81	214	295			
	Expected Count	116.8	178.2	295.0			
	% Within Q23_talk_breastfeeding	27.5%	72.5%	100%			
Total	Count	158	241	399			
	Expected Count	158.0	241.0	399.0			
	% Within Q23_talk_breastfeeding	39.6%	60.4%	100%			

In Table 5.21, the results show that a significant association existed between the number of children and the mentioning of EBF, $X^2=21.072^a$, $df=8$, $p=0.007$, $n=399$, with mothers having more children being talked to about the benefits of EBF.

Table 5.21: Q3 Number of children* Q26 ANC EBF cross-tabulation

Q26_ During ANC did any one talk about the benefits of EBF						Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q3_Three_Number_children		No	Yes	Total				
One	Count	0	63	80	143	21.072 ^a	8	0.007
	Expected Count	1.4	55.6	86.0	143.0			
	% Within Q3_Three_Number_children	0.0%	44.1%	55.9%	100%			
Two	Count	4	58	92	154			
	Expected Count	1.5	59.8	92.6	154.0			
	% Within Q3_Three_Number_children	2.6%	37.7%	59.7%	100%			
Three	Count	0	34	48	82			
	Expected Count	0.8	31.9	49.3	82.0			
	% Within Q3_Three_Number_children	0.0%	41.5%	58.5%	100%			
Four	Count	0	0	9	9			
	Expected Count	0.1	3.5	5.4	9.0			
	% Within Q3_Three_Number_children	0.0%	0.0%	100%	100%			
Five	Count	0	0	11	11			
	Expected Count	0.1	4.3	6.6	11.0			
	% Within Q3_Three_Number_children	0.0%	0.0%	100%	100%			
Total	Count	4	155	240	399			
	Expected Count	4.0	155.0	240.0	399.0			
	% Within Q3_Three_Number_children	1.0%	38.8%	60.2%	100%			

5.5 Section C: Knowledge of Breastfeeding Among Lactating Mothers

Results in Figure 5.11 show various stages at which respondents gave solid food to their babies: 55.1% respondents gave solid food when the baby started crying, 30.6% indicated six months, 5.3% indicated at four months and 39% were not sure about the time they started giving solid food. The finding indicates that most of the respondents

did not have knowledge when to start giving complementary foods as indicated by various answers given, particularly at four months, when the baby cries for the food and not being aware accounts for 94.7%. This finding indicates that lack of knowledge on when to start giving a child complementary food is a factor affecting EBF among lactating mothers.

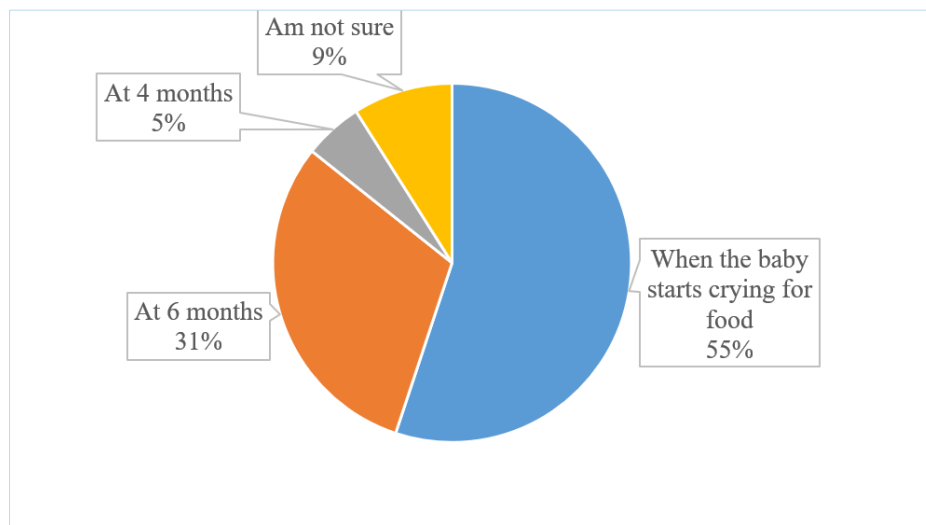


Figure 5.11: Stage at which a lactating mother is expected to give solid food to their children

Figure 5.12 shows that respondents, nearly 54% of respondents affirmed that they were taught EBF while 46% indicated that they were not taught about EBF. The finding was that a substantial number of lactating mothers were not taught about EBF. They lacked proper knowledge in EBF. This confirms the observation made above. Of the 215 respondents who were to taught about expressbreastmilk, 56.3% respondents indicated that they were taught by relatives, 20.9%, indicated health care workers, 18.1% indicated friends, and 4.7% indicated the media (Figure 5.13). The finding was that most of the lactating mothers were taught to express breast milk by their relatives.

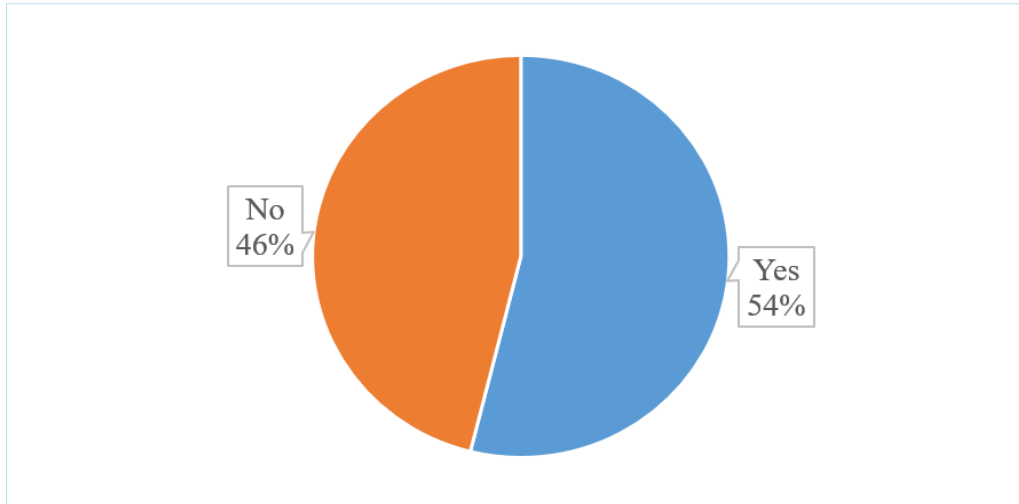


Figure 5.12: Have you ever been taught about how to express breast milk

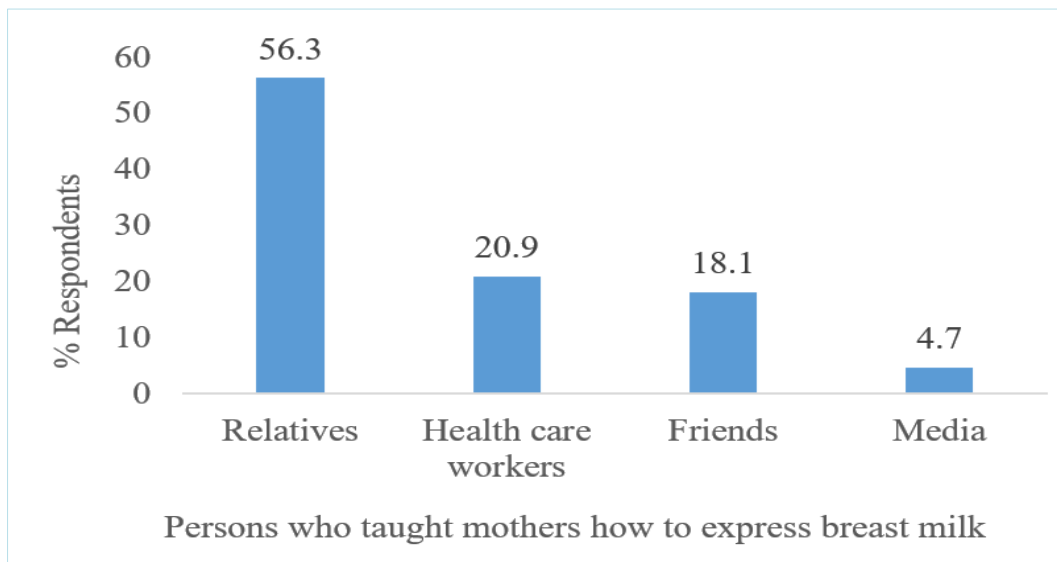


Figure 5.13: Persons who taught mothers how to express breast milk

Table 5.22 shows the results on whether respondents were taught selected aspects of EBF perceived to be important in the implementation of EBF. The results show that at least 51% of the respondents confirmed that they were taught each important aspect of EBF listed in the table.

Table 5.22: Taught in different aspects of EBF

Variables	Response	Frequency	Percent
The benefits of breastfeeding	Yes	246	61.7
	No	153	38.3
	Total	399	100
The importance of rooming-in	Yes	215	53.9
	No	184	46.1
	Total	399	100
Positioning and attachment	Yes	232	58.1
	No	167	41.9
	Total	399	100
The importance of feeding on demand	Yes	272	68.2
	No	127	31.8
	Total	399	100
What mother can do to ensure that she produces enough milk for her baby	Yes	283	70.9
	No	116	29.1
	Total	399	100
The importance of giving the baby only breast milk	Yes	285	71.4
	No	114	28.6
	Total	399	100

The results reveal that 71.4% respondents were taught the importance of giving the baby breast milk only; 70.9% respondents affirmed that mothers were taught what they can do to ensure that she produces enough milk for her baby, and the least teaching was indicated to be on the importance of rooming-in confirmed by 53.9% respondents. These results show that a considerable number of respondents confirmed to have not been taught these key skills and knowledge needed for EBF particularly the importance of rooming-in 46.1% and positioning and attachment,

41.9% lacked being taught in these aspects. Lack of knowledge is still a crucial factor in the implementation of EBF among lactating mothers. It could be inferred from these results that there was a considerable number of mothers with inadequate knowledge in key aspects of the implementation of EBF as they were not taught. Lack of knowledge in these key aspects led to poor implementation of EBF among women in the province.

5.6 Chi-Square Analysis of Knowledge of Breastfeeding Among Lactating Mothers

Teen mother turned to stop breastfeeding than their counterparts. In Table 5.23, the results reveal that there was no significant association between age of respondents and being taught about the benefits of breastfeeding for ($X^2=5.752^a$, $df=2$, $p=0.056$). Being taught about the benefits of breastfeeding was not significantly associated with the age. This implies that age of lactating mothers was not influential in the respondents understanding the benefits of breastfeeding being taught, therefore.

Table 5.23: Q1 Age* Q32 Benefits of breastfeeding cross-tabulation

Q32_benefit_breastfeeding					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q1_Age		No	Yes	Total			
16 to 23	Count	95	126	221	5.752 ^a	2	0.056
	Expected Count	84.7	136.3	221.0			
	% Within Q1_Age	43.0%	57.0%	100%			
24 to 31	Count	29	71	100			
	Expected Count	38.3	61.7	100.0			
	% Within Q1_Age	29.0%	71.0%	100%			
32 to 40	Count	29	49	78			
	Expected Count	29.9	48.1	78.0			
	% Within Q1_Age	37.2%	62.8%	100%			
Total	Count	153	246	399			
	Expected Count	153.0	246.0	399.0			
	% Within Q1_Age	38.3%	61.7%	100%			

In Table 5.24, the initiation of breastfeeding was significantly associated with being taught about benefits of breastfeeding ($X^2=67.206$, $df=3$, $p=0.000$, $n=399$), 77.1% of mothers who understood the benefits of breastfeeding were more likely to initiate breastfeeding within the first 30 minutes after giving birth. Knowledge of the benefits of breastfeeding was an influential factor in the implementation of EBF. Teaching pregnant women about the benefits of EBF can significantly influence the implementation of EBF.

Table 5.24: Q10 Start breastfeeding* Q32 Benefits of breastfeeding cross-tabulation

Q32_benefit_breastfeeding					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q10_Start_breastfeeding		No	Yes	Total			
Within 30 Minutes	Count	50	168	218	67.206 ^a	3	0.000
	Expected Count	83.6	134.4	218.0			
	% Within Q10_Start_breastfeeding	22.9%	77.1%	100%			
Within 1hr	Count	52	61	113			
	Expected Count	43.3	69.7	113.0			
	% Within Q10_Start_breastfeeding	46.0%	54.0%	100%			
The following day	Count	39	17	56			
	Expected Count	21.5	34.5	56.0			
	% Within Q10_Start_breastfeeding	69.6%	30.4%	100%			
Other specify	Count	12	0	12			
	Expected Count	4.6	7.4	12.0			
	% Within Q10_Start_breastfeeding	100%	0.0%	100%			
Total	Count	153	246	399			
	Expected Count	153.0	246.0	399.0			
	% Within Q10_Start_breastfeeding	38.3%	61.7%	100%			

The results in Table 5.25 reveal that $X^2=26.331$, $df=1$ $P<0.001$ show a significant association between the teaching of breastfeeding and the teaching benefits of breastfeeding, 68.2% of mothers who were taught about breastfeeding acknowledged

also being taught the benefits of breastfeeding compared to 37.6% of the mothers who were not taught about breastfeeding. The finding reveals that teaching of breastfeeding in general leads to mothers understanding of the benefits of breastfeeding for their infants. Teaching of pregnant mothers about breastfeeding and its benefits promotes the implementation of EBF.

Table 5.25: Q12 Taught breastfeeding* Q32 Benefits of breastfeeding cross-tabulation

Q32_benefit_breastfeeding				Pearson Chi-Square	Df	Asymptotic Significance (2-sided)	
Q12_taught_breastfeeding		No	Yes				Total
No	Count	53	32	85	26.331 ^a	1	0.000
	Expected Count	32.6	52.4	85.0			
	% Within Q12_taught_breastfeeding	62.4%	37.6%	100%			
Yes	Count	100	214	314			
	Expected Count	120.4	193.6	314.0			
	% Within Q12_taught_breastfeeding	31.8%	68.2%	100%			
Total	Count	153	246	399			
	Expected Count	153.0	246.0	399.0			
	% Within Q12_taught_breastfeeding	38.3%	61.7%	100%			

Correlation tests show relationships between selected variables which influenced the implementation of EBF among lactating mothers. The results in Table 5.26 reveal a significant association at $p < 0.01$ between continuing breastfeeding and being taught the benefits of breastfeeding. Most of the mothers 55.1% who were still breastfeeding were those who were taught the benefits of breastfeeding. Teaching of the benefits of breastfeeding was an influential factor to the implementation of EBF.

Correlation tests show relationships between selected variables which influenced the implementation of EBF among lactating mothers. In Table 5.27, correlation analysis results show a relationship between initiating breastfeeding and the demographic

characteristics of the mothers namely age of mother, employment as well as mode of delivery.

Table 5.26: Q14 Still breastfeeding* Q32 Benefits of breastfeeding cross-tabulation

Q32_benefit_breastfeeding					Pearson Chi-Square	Df	Asymptotic Significance (2-sided)
Q 14_still_breastfeeding		No	Yes	Total			
Yes	Count	129	158	287	18.849 ^a	1	0.000
	Expected Count	110.1	176.9	287.0			
	% Within Q 14_still_breastfeeding	44.9%	55.1%	100%			
No	Count	24	88	112			
	Expected Count	42.9	69.1	112.0			
	% Within Q 14_still_breastfeeding	21.4%	78.6%	100%			
Total	Count	153	246	399			
	Expected Count	153.0	246.0	399.0			
	% Within Q 14_still_breastfeeding	38.3%	61.7%	100%			

❖ Q1_Age of mother & Q10_Start_breastfeeding

The Pearson's correlation coefficient ($r=0.102$, $p\text{ value}<0.0043$), shows a significant positive but weak relationship in which elder mothers were more likely to initiate breastfeeding. This could be probably apportioned to the experience that the elder mother has compared to young mothers.

❖ Q4_Working & Q10_Start_breastfeeding

Working mothers were more likely to initiating breastfeeding compared to unemployed mothers as show by a weak positive $r=0.185$, at $p<0.01$.

❖ **Q5_ Qualification & Q10_ Start_ breastfeeding**

A significant negative and weak relationship of $r=-0.106$, at $p<0.05$ existed between the mother's qualification and initiating breastfeeding. This implies the higher the educational status of the mother less likely was she to initiate breastfeeding.

Table 5.27: Correlations between initiating breastfeeding and the demographic characteristics of the mothers

n=399				
Variable	Pearson's Correlation coefficient	Sig. (2-tailed)	Comment	Correlation
Q6_Infant's_age & Q14_still_breastfeeding	-0.323*	0.000	Significant association exists	Weak Correlation
Q4_Employment & Q14_still_breastfeeding	-0.381**	0.000	Significant association exists	Weak Correlation
Q5_Qualification & Q14_still_breastfeeding	-0.114*	0.022	Significant association exists	Weak Correlation
Q7_Sex_infant & Q14_still_breastfeeding	0.201**	0.00	Significant association exists	Weak Correlation
Q8_Place_delivery & Q14_still_breastfeeding	-0.121*	0.016	Significant association exists	Weak Correlation
Q9_Mode_delivery & Q14_still_breastfeeding	0.152**	0.002	Significant association exists	Weak Correlation
Q1_Mothers' age & Q10_Start_breastfeeding	-0.102*	0.043	Significant association exists	Weak Correlation
Q4_Working & Q10_Start_breastfeeding	0.185**	0.000	Significant association exists	Weak Correlation
Q5_Qualification & Q10_Start_breastfeeding	-0.106*	0.034	Significant association exists	Weak Correlation
Q6_Infant's_age & Q10_Start_breastfeeding	-0.240**	0.000	Significant association exists	Weak Correlation
Q9_Mode_delivery & 10_Start_breastfeeding	0.169**	0.001	Significant association exists	Weak Correlation
n=104				
Q1_Age & Q15_stopped_breastfeeding	0.220*	0.025	Significant association exists	Weak Correlation
Q2_Marital status & Q15_stopped_breastfeeding	0.301**	0.002	Significant association exists	Weak Correlation
Q3_Number_children & Q15_stopped_breastfeeding	0.461**	0.000	Significant association exists	Weak Correlation
Q4_Working & Q15_stopped_breastfeeding	0.603**	0.000	Significant association exists	Strong correlation
Q5_Qualification & Q15_stopped_breastfeeding	0.545**	0.000	Significant association exists	Strong correlation
Q6_Infant's_age & Q15_stopped_breastfeeding	0.608**	0.000	Significant association exists	Strong correlation
Q7_Sex_infant & Q15_stopped_breastfeeding	-0.416**	0.000	Significant association exists	Weak Correlation
**Correlation is significant at the 0.01 level (2-tailed).				
*Correlation is significant at the 0.05 level (2-tailed).				
**. Correlation is significant at the 0.01 level (2-tailed).				

Other factors could have influenced mothers with low educational level to start breastfeeding earlier. Probably fear of losing the baby compounded by lack of proper knowledge on caring of babies could have prompted young mothers to initiate breastfeeding earlier (Saka-Jairus, 2012).

❖ **Q9_Mode_delivery & Q10_Start_breastfeeding**

For obvious reasons of delivery in a hospital, mothers initiated within the expected period $r=0.169$, at $p<0.05$. Correlation analysis results show a relationship between continuing feeding and the demographic characteristics of the mothers namely age of infant, employment as well as age of infant and mode of delivery.

❖ **Q6_Infant's_age & Q14_still_breastfeeding**

Continuing breastfeeding was significantly negatively correlated with the age of the infancy at $p<0.01$, $r=-0.323$. This implied that breastfeeding was likely to be stopped when the age of the child increased. Age of the child was a factor that influenced EBF.

❖ **Q4_Employment & Q14_still_breastfeeding**

There was a significant relationship between the tendency of mothers to continue breastfeeding and employment at $p<0.01$, $r=-0.381$, showing that employed mothers were more likely to stop breastfeeding compared to unemployed mothers. Employment of breastfeeding mothers was likely to disrupt the implementation of EBF.

❖ **Q5_Qualification & Q14_still_breastfeeding**

A negative correlation existed between the qualification of mothers and continuing breastfeeding, with $r=-0.114$ at $p<0.05$. Mothers with higher educational level were more likely to stop breastfeeding earlier than those with lower qualifications. The

implementation of EBF in Limpopo Province is negatively affected by the educational level of the mothers with that higher qualification stopping breastfeeding to return to work within a two-or three-months period because maternity leave is only four months in South Africa.

❖ **Q7_Sex_infant & Q14_still_breastfeeding**

The continuation of breastfeeding beyond six months was also related to the gender of the child at $r=0.201$, $p<0.010$, with mother preferring to continue breastfeeding boys to girls. This preference influenced EBF by promoting it if most the babies were boys and disrupt it if most the babies were girls.

❖ **Q8_Place_delivery & Q14_still_breastfeeding**

A weak negative correlation existed between the place of birth and continuing breastfeeding, $r=-0.121$, $p<0.05$, with mothers delivering at home more likely to stop breastfeeding before a period of six months than those who gave birth in hospitals. The place of delivery influences the continuation of breastfeeding to a certain extent.

❖ **Q9_Mode_delivery & Q14_still_breastfeeding**

The mode of delivery was weak and positive related to continuing breastfeeding $r=0.152$, at $p<0.05$, with mother who gave birth at the hospital more likely to continue breastfeeding than those who gave birth at home. It could be inferred from the results that women who gave birth at home were lot likely to receive adequate breastfeeding education compared to those who delivered at the hospitals. Correlation analysis was also performed on demographic variables of mothers and stopping of breastfeeding. The values for r and p show relationships that were significant at $p<0.05$ and $p<0.01$.

❖ **Q1_Age & Q15_stopped_breastfeeding**

The results show a moderate relationship $r=0.220$ at $p<0.05$ that stopping breastfeeding was directly linked to the age of the mothers. Elder mothers were likely to prolong breastfeeding compared to younger mothers. This confirms that age of mothers was an influential factor in the implementation of breastfeeding among mothers.

❖ **Q2_Marital status & Q15_stopped_breastfeeding**

With $r=0.301$ at $p<0.05$, a significant positive relationship exists between marital status of mothers and stopping breastfeeding, with single and divorced mothers more likely to stop breastfeeding within a short period compared to married mothers. Divorced and single mothers could have been compelled to do this by other circumstances such as returning to work immediately to sustain the families or lack of pressure to continue breastfeeding usually by husbands or partners. This implies that marital status is an influential factor to the implementation EBF in the district. Married mothers were more likely to get support to keep on breastfeeding from their spouses who will go and work to raise basic needs for the family unlike with single and divorcees.

❖ **Q3_Number_children & Q15_stopped_breastfeeding**

There was a significant strong and positive relationship between the stopping breastfeeding and number of children, $r=0.46$, a $p<0.01$. Mothers with many children were more likely to stop breastfeeding within a short period after birth. Number of children a mother had was an influential factor in the implementation of EBF in the district.

❖ **Q4_Working & Q15_stopped_breastfeeding**

A strong and positive significant relation existed between employment of mothers and stopping breastfeeding, $r=0.603$, $p<0.01$ implying that employed mother were more likely to stop breastfeeding after delivery. Employment of mothers was one of the major factors influencing the implementation of EBF in the district. Employment of breastfeeding mothers led to the disruption of the EBF programme in the district. Working mothers stay away from babies for long periods and would also afford to buy supplement foods instead of using express milk.

❖ **Q5_Qualification & Q15_stopped_breastfeeding**

There also a strong and positive relationship between the qualification of mothers and stopping breastfeeding, $r=0.545$ at $p<0.01$, implying that the higher educational qualification the more likely the mother would stop breastfeeding. In many communities, women with high qualifications are employed and usually are expected to return to work immediately especially divorces and single mothers. High educational level of breastfeeding mothers can be construed as a factor disrupting EBF as it leads to their employment which separates them from babies for long periods of times.

❖ **Q6_Infant's_age & Q15_stopped_breastfeeding**

There is a strong relationship of the infancy significantly related to stopping breastfeeding, $r=0.608$, $p<0.01$. As the age of the infants increased, breastfeeding was more likely to be discontinued and replaced with complementart foods.

❖ **Q7_Sex_infant & Q15_stopped_breastfeeding**

With $r=-0.416$, at $p<0.01$, a negative significant relationship exists between gender of

the child and stopping breastfeeding. This implies that female infants were more likely to be stopped breastfeeding than their male counterparts.

5.7 Summary

Chapter 5 covered presentation and interpretation of the quantitative results. The collected data were cleaned and entered using SPSS version 26.0. The findings were presented in the tables and figures. Descriptive statistics and correlations were done to ascertain the association between the variables.

CHAPTER 6

DISCUSSION OF THE FINDINGS

6.1 Introduction

This chapter discusses the findings of the study. A convergent mixed-method approach was used. The qualitative approach was also used to gather information on the implementation of EBF with the health care workers while quantitative approach was used to gather information on the factors that influence implementation of EBF with lactating mothers.

Integration of the qualitative and quantitative results was done when the analysis and interpretation of the data from both are completed. The data were analysed side-by-side (parallel).

The themes from the qualitative data were confirmed by the findings from the statistical data, thus comparing both quantitative and qualitative data, the outcomes were compared and interpreted. The findings were presented to the health managers and dieticians to identify any factors that might require further explanation.

The findings were discussed in line with the themes that emerged from qualitative findings and either supported or differed with the quantitative findings, the inputs from the managers and were employed and literature citations were also used to control the findings of this study.

6.2 Paradoxical Explanation of How EBF is Implemented

The findings of this study revealed that professional nurses are implementing EBF through health education given to pregnant women and lactating mothers. The health education entails the benefits of EBF during ANC in preparation for breastfeeding immediately after delivery. The health workers also taught lactating mothers when they brought their babies for immunization about the advantages of breastfeeding. These findings further supported the findings of the quantitative study which showed that most the respondents (86.0%) attended ANC; 73.9% had been taught about breastfeeding; 60.4% had heard about EBF 61.2% had been told about the benefits of EBF, thus implying that most lactating mothers had knowledge about EBF and that they acquired that knowledge during ANC. This notion corroborated the study conducted by Saka-Jairus (2012) which revealed that breastfeeding increased three times in mothers who received infant feeding during ANC.

The findings show that most lactating mothers had information about key aspects needed to practice EBF despite the low EBF rate of 27%. These findings were consistent with the findings in a Zimbabwean study which concluded that mothers were knowledgeable, but the EBF rate was 36% in the Gwanda community (Mundagowa, Chadambuka, Chimberengwa & Mukora-Mutseyekwa, 2019). The findings, on the other hand, are divergent with a study conducted in Brazil with mothers of infants less than one-year-old attending immunization clinics. The study found that health education on the benefits of breastfeeding was associated with a higher prevalence of EBF among infants less than four months and among infants less than one year (Venancio *et al.*, 2012).

Consistent with these findings, the national immunization campaign in the Brazilian survey found that health education during ANC was associated with timely breastfeeding initiation and longer EBF duration (Venancio *et al.*, 2012).

Health workers indicated their efforts of promoting EBF by encouraging women to participate during health education, the health education was given as their teaching programme which included different topics on breastfeeding. They motivated lactating mothers to assist each other to EBF their babies for six months. The finding reveals that the teaching of breastfeeding to mothers was a contributory factor to the implementation of EBF among mothers in the province.

The timing of the initiation of breastfeeding was another aspect used to ascertain the knowledge of participants in the implementation of EBF. WHO recommended that breastfeeding must be initiated within 30 minutes following delivery (DoH, 2013). The study conducted in Uganda asserted that early initiation of breastfeeding is often linked to prolonged breastfeeding compared to delayed initiation (Bodo, 2014). Several participants described their views on the initiation of breastfeeding and their reasons for that.

Per the findings, most participants revealed that they initiated breastfeeding immediately after delivery and encouraged the mothers to start breastfeeding within an hour, when there were no abnormalities within 30 minutes post-delivery, but sometimes maybe it might take an hour or less to start breastfeeding. This notion was further strengthened by the findings of the quantitative study which showed varying initiation times for breastfeeding among the respondents with only 54.6% indicating that

they initiated breastfeeding their babies within the first 30 minutes and 28.3% initiated breastfeeding within the first hour after giving birth. The finding was that the majority (83%) of the respondents who initiated breastfeeding within the first hour of giving birth were assisted by nurses, showing that time taken to initiate breastfeeding could be an influential factor to the implementation of EBF among lactating mothers in the province.

A study by Liben, Gemechu, Adugnew, Asrade, Adamie, Gebremedin & Melak (2016) in Ethiopia strengthened this notion by reporting that mothers who initiated breastfeeding early were more likely to feed their infants exclusively compared to mothers who initiated breastfeeding later. A study conducted in the USA, found a greater likelihood of breastfeeding initiative within an hour of birth and lower likelihood of in-hospital formula supplementation (Horta & Victoria, 2014).

Efforts to promote EBF have been made through different strategies such as BFHI, MomConnect and IMCI. The findings revealed that they follow policy and strategies to implement EBF. In this regard, the participants were knowledgeable about policies by actively participating in the implementation of EBF. Implementation of step number ten (*Refer lactating mothers to support groups on discharge*) on the ten steps to successful breastfeeding is beneficial to promote EBF. Referring lactating mothers to breastfeeding support groups can scale up the rate of EBF. Absence of support groups means that there is no follow-up of mothers to check whether they are implementing EBF after discharge. This implies that this gives more chances for socio-cultural influence to prevail over the implementation of EBF once the mothers leave the clinics with little education on the breastfeeding.

A national study conducted in Croatia found that EBF rate increased after community-based support groups were introduced as part of the national breastfeeding programme strategy (Rosin & Zakarija-Grkovic, 2016). Another study also supported this notion by revealing that Chilean women attending a postnatal outpatient breastfeeding support clinic had higher EBF rates at six months and a lower likelihood of weaning from the breast by six months compared with their counterparts (Condon *et al.*, 2015). To promote EBF requires team work and support. Family, institutional and community support are indispensable. Working together could be the best in the promotion of EBF when individuals dedicate themselves towards their roles, nurses, dieticians/nutritionist and grandparents.

Participants indicated that their role was to help lactating mothers to exclusively breastfeed their infants and continue up to two years and beyond. The results indicated that their role is to assist them in initiating breastfeeding and EBF and continue for two years and beyond. First-time mothers are taught positioning, attachment and how to breastfeed. Second-time mothers are advised to start breastfeeding while observing if they are doing well and, if not, they are taught again. Statistical analysis of the quantitative findings showed that the nearly 75.4% of the respondents had one to two children.

The higher rate of EBF have been observed in mothers who had at least one child before as compared to a first child. The results showed that a significant association existed between number of children and the mentioning of EBF, with mothers having more children have been talked to about the benefits of EBF, these findings are in line with a study conducted in Zimbabwe, which found higher EBF rates in mothers with

two or more children than first-time mothers (Mundagowa *et al.*, 2019). Similarly, a study conducted in Jordan concluded that multiparity was a major predictor of EBF (Khasawneh Khasawneh, 2017).

Participants revealed that employment of the lactating mothers is the challenge in the implementation of EBF. These findings were also bolstered by results of the quantitative study which indicated that breastfeeding mothers were likely to stop breastfeeding when their babies were six months old. Of the respondents, 57.7% indicated that they stopped breastfeeding their babies because they were going back to work. This study concluded that EBF rates were lower among employed mothers compared to unemployed mothers—this finding was contrary to the study in which EBF rates were higher in employed mothers than their unemployed counterparts (Mundagowa *et al.*, 2019).

The findings indicated that there was a significant relationship between the tendency of mothers to continue breastfeeding and employment, showing that employed mothers were more likely to stop breastfeeding compared to unemployed mothers. A study in Southeast Ethiopia found that employed mothers were less likely to practice EBF (Joshi, Angdembe Das, Ahmed & Faruque, 2014). Employment of breastfeeding mothers was likely to disrupt the implementation of EBF. Working mothers are likely to experience challenges when they return to work, and they discontinue EBF (Wu & Wu, 2015).

Family support is very important in the promotion of EBF, the findings showed that support by fathers is imperative as they support their spouses to breastfeed because

formula is very expensive for them, some use grant money to buy formula. Nowadays, young parents are sharing grant money so fathers want that money too, they encourage mothers to breastfeed, this is supported by statistics which showed a significant association between marital status and the time when breastfeeding was stopped, and 48.8% of single mothers were more likely to stop breastfeeding within 0 to 1 months compared to 28% of married mothers. Most of the divorced women were more likely to stop breastfeeding within the 3rd and 4th months after giving birth compared to single and married mothers. These results confirmed that marital status was a factor influencing the duration within which breastfeeding was discontinued after birth among mothers of newborn babies. This implies that marital status is an influential factor to the implementation EBF in the district.

With $r=0.301$ at $p<0.05$, a significant positive relationship exists between marital status of mothers and stopping breastfeeding, with single and divorced mothers more likely to stop breastfeeding within a short period compared to married mothers. Divorced and single mothers could have been compelled to do this due to other circumstances such as returning to work immediately to sustain their families or lack of pressure to continue breastfeeding, usually by husbands or partners. This implies that marital status is an influential factor to the implementation EBF in the district. Married mothers were more likely to get support to keep on breastfeeding from their spouses who will go and work to raise basic needs for the family unlike with single mothers and divorcees. The finding was that single mothers were more likely to stop breastfeeding to go back to work to fend for the family and probably due to independence in decision-making.

The findings of this study are congruent with the study by Adisasmita, Maemun, Sari, Ritanugraini & Choirunisa (2016) which indicated that a higher effect was observed among mothers who received support for EBF. This indicates the importance of social and emotional support from a partner and other family members' on EBF, but is different to the study that was conducted in Kenya by Odindo, Odindo, Alwar, Olay and Oyugi (2014) which reported that women who were single mothers have reported practising EBF more than those who were married because of the freedom of choice.

6.3 Challenges Experienced by Nurses on the Implementation of EBF

This study revealed that the implementation of EBF was also affected by the ages of mothers, particularly teenager mothers who were not prepared to mend their ways of behaving and attitudes. This is further strengthened by the findings of the quantitative study. The results showed that 61.5% of mothers aged between 24 and 31 years were more likely to stop breastfeeding within 0 to 1 month compared to 67.9% of mothers aged 16 to 23 years and 81.8% of those aged 32 to 40 years who preferred to stop within one to three months. The results are inconsistent with the finding by Balogun, Dagvader, Ango, Ota and Sasaki (2015) who found that the age of the mother was an influential factor in sustaining EBF, adolescent mothers <20 years and elderly mothers >35 years were most likely discontinue EBF earlier than mothers of other age ranges.

This finding was analogous to observations in a Chinese study where lactating mothers of the age group 15-24 years were less likely to practice EBF due to general traditional practice of prelacteal feeding, especially in rural areas (Qiu, Zhao, Binns, Lee & Xie, 2009). Similar results were reported such as teenage pregnancies in Zimbabwe were quite high and this could have had a bearing on the ability of mothers

to practice EBF for six months (Ministry of Health & Child Welfare, 2013). Teen moms discontinue EBF early compared to older mothers. One study found that EBF rates were higher among mothers aged 35-39 compared to those less than 20 years old. Higher rates were also found among 25-34 and 36-45 years old (Dachew & Bifttu, 2014) compared to younger mothers. In the study conducted in Ethiopia, infants whose mothers were aged 36-45 years were two to eight times more likely to be exclusively breastfed compared to those whose mothers were younger (Dachew & Bifttu, 2014). These varied findings from different countries show that determinants of EBF fluctuate from one country to another.

The need to return to school, dislike of babies and wrong attitudes were barriers to the implementation of EBF among teenage mothers. Similarly, a Brazilian study revealed that teen mothers were less likely to EBF compared to older mothers (Dias de Oliveira, Giugliani, Espirito Santo & Nunes, 2014). It is difficult for teenage mothers who still have many ambitions in life to comply with the requirements of breastfeeding as they spend most of their time separated from the babies. Their grannies are partly responsible for encouraging the teenage mothers to be away for prolonged periods of time and when they are away, babies are fed on some substitutes. The findings of this study indicate that lactating mothers were not complying with EBF, especially school-going and working mothers.

Furthermore, the results were supported by health care managers and dieticians who said that employment was a challenge in the implementation of EBF. Therefore, breastfeeding support for working and student mothers is necessary to assist them with accurate information about EBF and lactation break.

Another burning issue is teenage mothers' cosmetic reasons, as they want to maintain their original body shape—it was evidenced that teenage mothers would rather not breastfeed because they were worried of their figures. To maintain their body shapes, the young mothers chose to discontinue breastfeeding and opted for soft porridge and other foods. Young mothers were always ill prepared for the challenges of breastfeeding and looking after the baby. At the worst, young mothers lacked authority over their babies. Dependency limits the mothers' sense of autonomy.

A recent study showed that dependent women often adhered to family advice on infant feeding practices (Taddelle & Fentahun, 2014). This implies that young mothers may not make any effort to learn about EBF as they relied on their elders and may not be able to make decisions on how the babies are raised. The community, particularly the family is to be blamed for some of these shortcomings that lead to bad practice by young mothers who stop breastfeeding at a very early age. The implementation of EBF is severely affected in communities with many teenage mothers who lack knowledge on sustaining EBF.

Besides lack of knowledge by teen mothers, some participants expressed lack of love for babies as due to stress. This points to the fact that most teenager mothers are usually poorly prepared to take responsibilities to breastfeed in public and try to conceal it from friends. Participants also pointed out that teenage mothers are always impatient with matters regarding the well-being of their babies, particularly breastfeeding, and leave the responsibilities to grandmothers or other senior members of the family. Together with other factors that militate against EBF, participants' responses revealed attitudes of mothers as a contributing factor.

Mothers with positive attitudes are more likely to follow procedures that promote the health of their babies. Findings in this study showed that young mothers had negative attitudes towards breastfeeding and may have regarded it as an inconvenience to their freedom. Mothers with bad attitudes chose not to comply on the pretext of culture and ignored the advice from health care workers on good breastfeeding practices. Lactating young mothers attributed bad attitude towards breastfeeding to personal circumstances, including love, bad previous experiences such as rape, this wrong attitude can also be apportioned to the societies from which these mothers come particularly their upbringing which rob them of realities of life leading to them being mothers when they are not yet prepared.

The findings revealed that late coming for ANC is another challenge. The situation was exacerbated by mothers who turned up late at sessions conducted by some nurses who had limited knowledge and bad attitudes towards pregnant mothers due to being overworked. The same women also rarely attended ANC, or they registered late to avoid the sessions. Such mothers ended up opting for mixed feeding instead.

The results revealed that a support group was very good to promote EBF, but participants did not refer lactating mothers to support groups after discharged because of this challenge. This notion was supported by the quantitative statistics which showed that only 35.6% of the respondents were referred to mentor mothers on discharge by health workers and the majority (64.4%) were not. Absence of support groups means that there is no follow-up of mothers to check whether they are implementing EBF after discharge. This created more chances for socio-cultural influences to prevail over the implementation of EBF.

This study revealed that many socio-cultural factors such as traditional and religious beliefs have been found to be challenging factors to the implementation of EBF in the province. Many participants alluded to such as family, parent/parent-in-law, and Christianity negative factors to the EBF regardless of the awareness of the knowledge on the benefits of breastfeeding among the participants. The findings were consistent with the research that was conducted in Nigeria, which found that the baby's maternal grandmother can positively or negatively influence breastfeeding (Adewuyi & Adefemi, 2016).

In rural settings where most of the mothers lived, the influence of traditional healers of the community was very high and the mothers would rather listen to traditional healers than health workers who may depend of book knowledge to explain social issues affecting health. Grandparents' lack of knowledge on EBF and believe in supplements while Christians also believe in holy water which, they think, should be given to the child immediately after birth. In this regard, daughters-in-law, regardless of their knowledge of the benefits of implementing EBF have no choice but to follow what their in-laws dictated to them (Siziba *et al.*, 2015). Worse still, traditional beliefs and religion affected EBF among the lactating mothers in Limpopo Province.

Regardless of efforts made to teach EBF, the challenges remain in place because culture for the local people will remain a big obstacle to the implementation EBF among the mothers, and grandmothers must share the blame for they do not believe in EBF. In this study, it could be seen that lactating mothers, particularly daughters-in-law had limited influence on decisions related to breastfeeding. Their grandmothers and parents-in-law always decided what was best for the newborn-baby as they want

to raise their grandchildren probably the same way they did to their own children. They disregarded health advice that promoted the well-being of their babies and initiated babies on other types of edible food at a very early age thereby compromising the health of the baby. It is always expected of daughters-in-law to respect their in-laws by obeying their orders and, after all, the babies belong to the husband's family, i.e., the so-called paternal effect. Whether it is traditional or religious, the dominant ideas about the upbringing of a baby for mothers who stay with grandparents, are those of the elder person in the family. This have a negative effect on the implementation of EBF for newborn babies.

The findings of this study showed that, the lactating mothers' selection of feeding practices was influenced by their parents, parents-in-law, mother's attitudes and perceptions of breastfeeding and nutritional value. The findings confirmed by statistics of the quantitative study were: From the proportion of those who discontinued breastfeeding early, about 46.3% were advised to do so by guidance (parents or parents-in-law), 22.8% made their own decision, 12.8% were educated by health care workers, and 12.1% were advised by their spouses. Advice from other relatives and other means constituted 3.6% and 2.6%, respectively. Consistent with the findings from health care managers and dieticians, challenges experienced by the health care workers in the implementation of EBF were cultural and religious beliefs, parents and parents-in-laws are the ones who decided on feeding practises of newborns, hence, they did not have knowledge on the benefits of EBF. Health education at primary level was suggested by encouraging pregnant women to bring along a family member during ANC.

Myth around breast milk was also indicated as a challenge in the implementation of EBF. In the current study 32,6% lactating mothers indicated that they introduce solids food before six months because their babies were crying by hunger as they don't produce enough breast milk. But the fact is lactating mother always produce enough breast milk for her baby or babies in case of twins. The findings revealed that most of mothers were advised by their parents or parents in law on feeding practise of their infants and that they don't want to feed them with EBM as they believe it is dirty and contaminated. They insist on expressing foremilk if the mother was separated with the infant, they believe that foremilk is sour. 24% of lactating mothers indicated that they stop breastfeeding ealier because they were ill, depending on the severity of diseases, mothers can continue with breastfeeding or express breast milk to feed the baby using cup.

Institutional challenges found to be influencing the implementation of EBF were shortage of staff and time to teach, lack of support, lack of knowledge and attitude of staff. The shortage of nursing staff to provide necessary services to expecting mothers and those who have just given birth seemed to be the main challenge to the implementation of EBF as this created work overload and shortage of time to teach in many health care facilities. The findings revealed that shortage of staff and time to teach are the main challenges to EBF. Shortage of staff affects time for teaching as one professional nurse will be doing multiple assignments, and this leaves very little time for teaching or attending to expecting mothers.

The findings showed that nursing staff were overworked and became ineffective in their quest to teach EBF resulting in the programme being an information giving rather

than a teaching one. Participants expressed the same challenge of staff shortage which led to the nurses being unable to give enough information as they run out of time to do with overwhelming work and mothers to attend to, however the findings from quantitative study shows that 71% of the respondents were taught breastfeeding by health care workers, 6% by parents/parents-in-law and 2% by radio, but 21% abstained. The finding demonstrated that health workers provided most of the breastfeeding education to lactating mothers and this could be a contributory factor to the implementation of EBF among mothers with newborn babies in Limpopo Province.

The managers' and dieticians' citations showed that time allocated to EBF was very limited due to shortage of staff in the health facilities, as well as lack of support to sustain the teaching process. Shortage of staff led to long queues and this reduced the concentration of the nurses in teaching breastfeeding as they focused on serious cases. Participants observed that even though they wanted to educate women about breastfeeding, their stay at the hospital was very short. The findings showed that the implementation of EBF in the province is currently affected by shortage of staff to teach and provide support to mothers. This translated to work overload as nurses try to complete many activities within a short period. This left nurses with little time to offer quality education on breastfeeding to women in most health care centres.

The findings are consistent with the study by Alliamoghaddad, Phibbs & Ben (2017) which identified a shortage of human resources as one of the primary constraints to scale-up the implementation of EBF. Another study also revealed that the shortage of health care workers influenced implementing EBF (New Zealand Ministry of Health, 2017). This finding further supported by the health care managers and dieticians also

indicated the issue of lack of human resources as a challenge in the implementation of EBF in the province. Considering human resources in strategic planning can help policymakers to identify alterations of staff structures by shifting non-specialized tasks to other personnel if there are limited specialized staff and to identify other underutilized qualified personnel. This can help to improve performance in terms of time allocated to reach the target of EBF.

A maternal HIV-positive status was found to be significantly associated with the implementation of EBF in Limpopo Province. Participants expressed feelings and thoughts about personal factors that could be regarded as challenges to the implementation of EBF in the province. Participants alluded to factors related to mothers' illness that they thought influenced the implementation of EBF. Mothers who were HIV-positive or just ill were reported to be not in favour of EBF. HIV-positive mothers feared transmitting the virus to their child through breast milk, hence, they preferred to stop breastfeeding completely. This assertion was supported in study by Glottlied, Shetty, Mupfungautsi, Bassett, Maldonado & Katzenstain cited in Mundagowa (2019), in which they identified that mothers who knew their positive status revealed urgency in preventing transmission of the virus to the baby. Thus, an HIV-positive status of the lactating mother was found to be responsible for the decrease in the duration and exclusivity of breastfeeding.

Managers and dieticians cited that the mother's illness was a challenge in the implementation of EBF. This was confirmed in the study by Bodo (2014) in Uganda which found a positive association between decreased duration of breastfeeding and positive status of the mother due to fear of mothers transmitting the virus to their

infants. Fear of transmission of HIV-positive mothers to their infants was declared as a major hindrance to EBF. In the study done by Bentley *et al.* cited in Saka-Juirus (2012) on perception of the role of maternal nutrition in HIV-positive lactating breastfeeding women, it was reported that most women perceived EBF as a factor that increase the progression of HIV.

The perceptions of HIV-positive mothers towards breastfeeding are regarded as obstacles to the implementation of EBF. This clearly shows that HIV-positive mothers and their family members seriously lacked correct information about EBF as it related to mothers living with HIV/AIDS. Lack of information can be tracked back to poor breastfeeding education by nurses who were always busy due to shortage of staff leading to poor attendance to pregnant mothers. In terms of the women, studies have also supported that many HIV-positive lactating women lack EBF knowledge. Such practices predispose people in the country to poor health outcomes in both their infant and young child years, as well as adulthood (Siziba *et al.*, 2015). Some do not know the benefits while others are ignorant for some personal reasons (WHO, 2014; Siziba *et al.*, 2015).

The results show that ill lactating mothers with chronic conditions as well as those with breast problems are usually under the influence of parents and parents-in-law who decide what should be given to the baby during baby sitting and they do not want to give EBM, but other foods. The findings from the quantitative study revealed illness of the mother as a challenge. The findings indicate that breastfeeding mothers were likely to stop breastfeeding when their babies were three months old. Of the respondents, 104 indicated the age of babies when they stopped breastfeeding,

24.0% indicated medical condition.

Lack of knowledge of EBF among the nursing staff was found to be another institutional challenge to the successful implementation of EBF. The findings elaborate the issue lack of correct information about breastfeeding resulting in lactating mothers taking of wrong medication which affects breast milk quantities. The lack of knowledge was ascribed to nurses' not reading policies as a challenge.

Results indicated staff attitude as a challenge as expressed by participants that attitudes of nurses are not good when it comes to teaching mothers EBF, especially after having been working under pressure. Some of the nurses did not have the right attitude to deal with pregnant women or lactating mothers who ignored instructions. They were perceived to do it deliberately, particularly those nurses who had not experienced pregnancy. When mothers informed them about their problems related to breastfeeding, they simply ignored or just dismissed the mothers. Teaching breastfeeding requires health workers to focus and be positive.

These participants confirmed that lack of knowledge by the nursing staff is a challenge which led to poor teaching of mothers about EBF. Lack of knowledge also occasioned bad attitudes towards the mothers, especially if they asked challenging questions which nurses were not prepared to answer. Nurses were not knowledgeable in the policies of breastfeeding and the advantages of breastfeeding to the mothers and babies. This was supported by a study which indicated that lack of knowledge in health care professionals can impact negatively on EBF when women received inconsistent, inaccurate and inadequate breastfeeding information (Brittin, 2015). The managers

and dieticians also indicated lack of training on lactation management as a challenge in the implementation of EBF by the health care workers in the province. An important finding was made about the knowledge of the implementation of EBF and the benefits derived from it.

The description of benefits of EBF by several participants also brought to the fore their knowledge in the implementation of the process in the province and how the mothers could promote the health of the concerned children as well as the financial implications. To substantiate this finding, extracts from several participants revealed two important benefits in implementing EBF, namely, health and financial benefits. Participants with enough knowledge of the implementation EBF also raised health benefits for the babies and encouraged mothers to practice the process. Participants who alluded to health benefits also elaborated that the vital information was made available to the mothers during pregnancy rather than after giving birth. The results showed that participants described how the benefits of breastfeeding were conveyed although with some challenges. Participants taught mothers that breastfeeding was the best because it has antibodies that fight microorganisms, is always ready and cheap. Participants indicated that benefits of the processes appeal to mothers although it was difficult convince them for other reasons. To show the importance of knowledge of implementing breastfeeding, participants thought of including the benefits towards HIV-positive mothers.

Per the participants of this study, implementing EBF was considered of paramount importance for maintaining good health of children from birth to six months. The knowledge of the benefits of EBF that the nurses have was an important factor in the

implementation of the process in Limpopo Province. Randomly, lactating mother's knowledge of breastfeeding was above average. About 61% knew about the benefits of breastfeeding a baby, 70.3% were aware of the importance of feeding a baby with breast milk only, 69.8% were cognisant of the means of producing enough milk, 67% were acquainted with the importance of feeding on demand, 58% on positioning and attachment, while 61% were mindful of the importance of rooming-in. Having a high proportion of respondents with breastfeeding knowledge was due to support given by the health workers.

Other than knowledge on health benefits resulting in the implementation of EBF, the findings highlighted financial benefits to the parents derived from the same process. Results showed that EBF was of financial benefit to mothers, EBF was beneficial in that money supposed to be used for buying supplementary feeding food was used for other important needs. Because of the benefits enjoyed from the implementation of breastfeeding, participants therefore encouraged mothers to initiate breastfeeding as soon as possible and practice EBF.

6.4 Perceived Measures to Promote EBF

When participants were asked about strategies they thought could be used to promote EBF in the province, they suggested several possible activities which were categorized into: outreach programmes for lactating mothers and pregnant women and health education to the families and communities.

6.4.1 Outreach Programmes Suggested to Improve EBF

Outreach programmes are among the most successful activities that can be used to

educate women on breastfeeding and pass important messages to pregnant women on existing assistance for them to prepare for upbringing of their new babies. Outreach programmes involve health workers visiting women at their homes or at designated places where they meet and provide the education. In some cases, incentives such as food, books or competitions are used to lure women to come. However, outreach programmes to the families and community require a large pool of staff to go out to the field while other remain at the station.

In the context of the outreach programmes, some participants described what they were currently doing. The findings revealed that outreach programmes were effective as they also targeted influential members of the families such as grannies and husbands. The idea was expressed by the participants who perceived outreach education as being better than health education in the clinic. The findings are in line with the study by Haroon, Das, Salam, Imdad & Bhutta (2013) which revealed that breastfeeding education increased EBF and decreased no breastfeeding rate at birth to less than one and one-five months.

The participants explained that door-to-door outreach education was more superior to health education at the clinic because it involved every family member which included grannies, fathers and in-laws, to motivate and empower them with knowledge on the benefits of EBF. While expressing their views on outreach programmes in this study, participants brought in the dimension to support the door-to-door activities. This assertion highlighted that in other health care centres certain activities to support breastfeeding mothers were overlooked, for example, support groups and mentors. Based on the above citation, it means that the structures are not in place, or the

participant was not aware of them considering her experience of four years at the institution. Participants also suggested that outreach programmes should also target pregnant women within the local communities teaching them about EBF so that by the time they give birth, they would be aware of the process and its challenges. Some of participants also suggested conducting outreach programmes to teach the importance of EBF and encouraging mothers who were still exclusively breastfeeding to maintain the status. The participants recognized the importance of sustenance by encouraging good breastfeeding practice and by using mentor mothers effectively. Per the participants, outreach programmes should empower all women in the community with knowledge on breastfeeding. In this study, managers and dieticians articulated the advantages of using outreach programmes to access women and educate them on EBF. In principle, outreach education allows interaction between those involved leading to mutual understanding of the underlying issues to be discussed openly.

6.4.2 On-Going Health Education Programmes

Families and the communities play important roles in the implementation of EBF as they have the capacity to sanction it in the manner they feel fit in accordance with their tradition or discretion. The findings revealed that social challenges such as cultural beliefs of parents/mothers-in-law and husbands could inhibit EBF by daughters-in-law or simple daughters who are perceived to be school-going. In this regard, the following suggestions arose from the participants' beliefs and perceptions that families and communities need to be educated so that every member has a responsibility in caring for the baby. Extracts from participants showed that family and community education is important in the implementation of EBF in Limpopo Province. In this excerpt the

participant identified who should be taught and the place where teaching should be conducted, such as the royal council. The choice of the “royal council” signifies the importance of the implementation of EBF as this involves influential members of the community and cultural groups, chiefs’ wives and families of the inner circle. Convincing women in the royal family will enable the health workers to conduct the education programme with confidence around the district and will use these royals as models in EBF. The participants reasoned that supermarket approach should be discouraged and the family and community be the starting point.

They believed that door-to-door campaigns could be effective when they targeted community and key family members, particularly fathers and parents-in-law. Participants also suggested the use of radios in the campaign to increase the knowledge of the communities. It is not clear how the participants supposed that this would be effective in increasing the awareness of EBF because other media such as social media have taken over communication in many societies. These suggestions showed that besides promoting EBF, there were other aspects of health that should be promoted that affected breastfeeding mothers such as monitoring EBF after discharge by visiting the families in their natural environments and the homestead. Another suggestion by the participants and supported by the health care managers and dieticians envisaged inviting the family members to the clinic together with lactating mothers during immunization and pregnant women during ANC.

The important aspect is to involve the community in breastfeeding so that they support mothers to do the right thing during breastfeeding, even reminding them. It is important that the communities and families get involved at an early stage in the education of

EBF so that they do not put pressure on mothers to use supplements if they believed that the babies cried for other foods. The importance of educating the family and communities to promote and sustain the implementation of EBF is perceived as an important step by the managers and dieticians. They perceived that the community and families were key to the upbringing of the babies and customarily dictated to the mothers how to feed them. They also perceived that involving key community members, such as the royals, play a pivotal role in EBF. However, the use of some of the media such as radios and inviting community members to the clinics accompanying pregnant or lactating women were suggested to promote EBF.

6.4.3 Establishment of Support Groups

Participants believed that the implementation of EBF can be promoted by putting into place strategies that directly encourage lactating and pregnancy mothers to adopt that feeding process. This idea was supported by participants who believed that support groups were pivotal in promoting EBF. The participants believed that using local community lactating mothers would provide good motivation to others and influence them to practice EBF. They also believed that lactating mothers should be encouraged and advised to be with their babies and using breast milk only.

Women support groups have been used for breastfeeding promotion in settings in countries such as Ghana, Guatemala and Gambia (WHO, 2012). Use of support groups would address the barriers of inadequate numbers of health workers and the long distance to health facilities, since support is offered at the community level, thus obviating the need to involve few health workers at the health facilities. But only 16% of the women in the group actively attended support groups, making it difficult to

conclude as to the effective mother's support groups in promoting EBF (Bodo, 2014). Unlike South Africa where focus is much on the health care structures, women support groups have been used to influence breastfeeding culture in countries such as Tanzania, Ghana, Guatemala and Cambodia (WHO, 2014). These support groups consisted of mothers who came together to support, encourage and assist each other, to promote breastfeeding initiation and continuation among members. In Cambodia for instance, the EBF rate increased from 11% to 60% when support groups were implemented (WHO, 2014).

In Tanzania, infant feeding counselling played a major role in supporting the mother's decision to breastfeed exclusively for the first six months; the EBF rate increased three times in mothers who received infant feeding advice during ANC (Saka-Jairus, 2012). Uganda uses home-based peer breastfeeding counselling and training to support the drive. As at 2016, survey data indicated that the approach has influenced a total increase of 28.3% in EBF for the first six months (Walters, Horton & Siregar, 2016). It is appropriate to stress that if South Africa adopted similar approaches, similar heights could be reached.

Apparently, the findings revealed that women were not aware of the breastfeeding support available in their community, this can include breastfeeding support groups and lactation consultants. Referring women to seek out other women who are or who have breastfed can be an important form of social support and breastfeeding knowledge (Walters *et al.*, 2016). Absence of support groups means that there is no follow-up of mothers to check whether they implement what was taught. This implies that this gives more chances for socio-cultural influence to prevail over the

implementation of EBF once the mothers leave the clinics with little education on the breastfeeding. Support groups are believed to supplement the effort of the health care and families in assisting pregnant and lactating mothers to practice EBF among other expectations of health education.

Breastfeeding support groups in the work environment can contribute to success—this notion was alluded to by the managers and dieticians. They indicated that support for breastfeeding women should involve longer leave from work and improved breastfeeding conditions at work. EBF and duration can be longer among workers who had support for breastfeeding at work, did not do shift work, and did not work on weekends. Breastfeeding support that influenced participatory counselling combined with monthly postpartum clinical follow-up visits significantly increased the proportion of working women who exclusively breastfeed their infants. Most of the working women who maintained EBF, cited that they expressed their breast milk. This is supported by the study conducted by Mangasaryan (2012) who showed that family and community-level breastfeeding support, socially, emotionally and materially, is important in promoting EBF.

6.4.4 Task Shifting

Availability of CHWs or breastfeeding could be a better intervention in the promotion of EBF. Lack of human resources leading to increased workload and time constraints, task shifting to CHWs were viewed as beneficial in promoting EBF. This finding was supported by the health care managers who suggested that the availability of CHWs can promote EBF.

6.4.5 Training of CHWs

Training of CHWs can contribute to implementation of EBF. The managers and dieticians suggested that CHWs should be trained to acquire relevant knowledge on the implementation of EBF. They further suggested that lactation management courses should be fused into the final year nursing students' curriculum. This notion is like the study that was conducted by Carvalho de Jesus, Couto de Oliverira & Fonseca (2016) which stated that there was a dire need for periodic training of health professionals in promoting, protecting and supporting breastfeeding, given that health professionals who lacked knowledge and skills on EBF can negatively influence EBF (Carvalho de Jesus *et al.*, 2016).

6.4.6 Utilising Breastfeeding Policy

Managers and dieticians suggested that a breastfeeding policy can also be used to encourage lactating mothers to implement EBF. The use of the policy should supersede all other forms of strategies as it is from professionals and practitioners. Encouraging breastfeeding mothers from a policy point of view is an import aspect of promoting the implementation of EBF. While the policy encourages lactating mothers to exclusively breastfeed because of the advantages of breast milk and as such the participants recognize the importance to use it rather than to use emotions and beliefs. Per Hawke, Dennison & Hisgan (2013) indicated that a written breastfeeding policy is the first step to improve EBF. Each facility must have a breastfeeding policy in usage. Staff must be oriented to the policy and the policy must be routinely discussed amongst staff as one of the strategies to improve EBF.

6.5 Summary

This discussion integrated the findings from quantitative and qualitative data. The themes from the qualitative data were confirmed by the findings from the statistical data, thus merging the quantitative and qualitative data.. It also provided both numbers and stories from the participants. The parallel convergent method also served as the best method that enhanced development an intervention (Creswell, 2014). Both qualitative and quantitative findings revealed that lactating mothers had a problem in sustaining EBF, where cultural and religious beliefs, family/community and health professional support are obvious challenges in the implementation of EBF. Lactating mothers experienced knowledge deficits on when to introduce solids foods and how to express breast milk and storage while health care workers found to have challenges to implement EBF due to shortage of staff. Therefore, strong efforts are needed to promote EBF.

CHAPTER 7

DEVELOPMENT OF AN INTERVENTION PROGRAMME TO PROMOTE EXCLUSIVE BREASTFEEDING STRATEGIES IN LIMPOPO PROVINCE

7.1 Introduction

This chapter covers the development of an intervention programme to promote EBF strategies in Limpopo Province. The previous chapter entailed a discussion of data from both quantitative and qualitative methodology. Both quantitative and qualitative results revealed that there was inadequate and substandard implementation of EBF strategies in the health care facilities. Therefore, strong efforts are needed to promote EBF strategies in Limpopo Province. The overall aim of this study was the development of an intervention programme to promote EBF strategies in Limpopo Province.

7.2 Development of An Intervention Programme

The programme was developed based on the findings of convergence mixed-method research (Phase 1), which involved professional nurses working in the birthing units and lactating mothers within the community. After data analysis, consultation with the supervisors and searching for evidence and literature, the researcher and the supervisors wrote a letter to the Vhembe District Executive Manager requesting a meeting with district managers from the PMTCT, HIV/AIDS, MCWH, PHC, Expanded Programme of Immunization (EPI) and Dieticians Directorates.

The District Executive Manager requested the release of the group from their respective institutions. The researcher presented the findings to the managers. Two workshops were conducted with the managers and dieticians. The participants suggested the interventions and materials to inform the development of the programme to address the identified challenges which marked the end of the first step of IM (Need assessment). A modified PRECEDE model (Green & Kreuter, 2005) was employed to develop a logic framework of the problems based on the findings from Phase 1 of the study (Figure 7.1). The analysis revealed several challenges to the implementation of EBF strategies in Limpopo Province as personal, community/family and health system issues. The subsequent steps of the IM were then followed to develop the programme: matrices of change objectives, and selected theory-based methods of intervention, development of an educational programme and plan of implementing the programme.

7.2.1 Personal Issues

Lack of knowledge about the benefits of EBF among lactating mothers has been shown to influence the duration of EBF. Illness of the mothers, HIV-positive mothers, has also been shown to negatively affect EBF. Employment can influence the decision to breastfeed, working and lactating mothers who were still studying, loved to EBF their babies for the first six months but found it difficult to continue to do so at the risk of their jobs and education. Work and studies were the common reasons given for not breastfeeding exclusively. The findings revealed a positive association between the age of the mother and the reasons for stopping breastfeeding, going back to school, lack of motherly love by teen mothers and, young mothers' refusal to breastfeed their

infants in public due to cosmetic reasons.

7.2.2 Family/Community Issues

Data analysis revealed that parental/in-law's influences on breastfeeding practices were very high. Lactating mothers' decision to breastfeeding was influenced by her parents or parents-in-law. Cultural, religion and beliefs in Limpopo Province have been reported to influence EBF. Infants are given soft porridge mixed with herbs for protection. There is also common practice of giving anointing water for religious purposes. Myths about expressed breast milk is also a cultural practice which is probably perpetuated by negative beliefs about foremilk being contaminated and dirty. Lack of family support from family and community is particularly important because there is little support from health facilities.

7.2.3 Health System Issues

These included limited resources which are associated with the shortage of staff leading to heavy workload and time constriction for EBF support. Attitudes, lack of knowledge and skills among health care workers also influence EBF.

7.2.4 Matrices of Change Objectives

The basic tool for IM is the matrix of change objectives. Change objectives state what needs to be achieved to accomplish performance objectives that will enable changes in behaviour or environmental conditions that will, in turn, improve the health and quality programme goal identified in the need assessment (Bartholomew *et al.*, 2011).

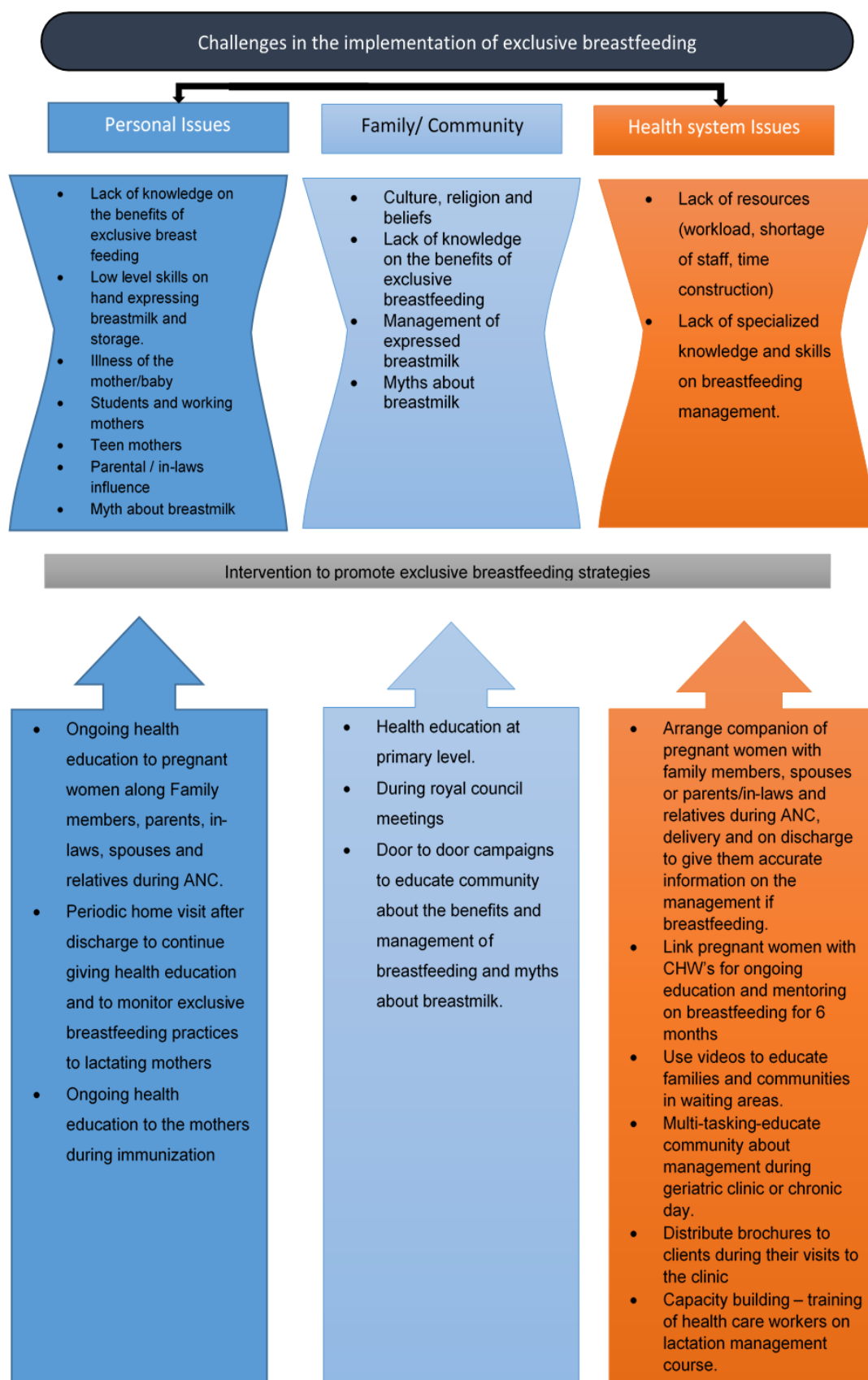


Figure 7.1: Logic framework for the development of a programme

Based on the identified challenges, matrices of change objectives were developed that drove decisions about intervention content and methods.

Matrices of change objectives will be based on giving health education, empowerment, motivation and support. These are the ways through which the elements can be used to achieve the objectives of the programme (Tables 7.1).

❖ **Motivation**

This is an energy source which influences productivity and may also bring about change in behaviour (Bartholomew, 2011). Motivation may come from the community/families and health care workers. Health care workers can include those lactating mothers who manage to exclusively breastfeed their babies to motivate new mothers. The health care workers should motivate them; it may come in the form of rewards for good behaviour.

❖ **Advocacy**

This describes the determination to change behaviour. This element is achieved through direct dialogue with a failing agent or a recipient who needs to change behaviour (Rogers, 2003). It may also come in the form of counselling for behaviour change thereby empowering the individual to build self-confidence to take better decisions. This is in line with the infant and young child feeding policy which encourages to advocate for the creation of a supportive environment, including in the workplace that will enable mothers to breastfeed exclusively for the first six months and to sustain breastfeeding (DoH, 2013).

❖ Education

Antenatal breastfeeding education and support have shown to improve the rates of EBF (WHO, 2016). The goal is to enable mothers to understand the benefits of breastfeeding and prepare them to breastfeed successfully. During the antenatal period mothers, should be equipped with knowledge and skills on how to breastfeed. Health care personnel should promote and encourage women to exclusively breastfeed their infants for the first six months and not recommend formula feeding as an alternative to breastfeeding unless there are legitimate medical reasons to do so (DoH, 2016).

Per the study findings, this was can be achieved through health campaigns, door-to-door and outreach programmes. Frequent or on-going health education every morning, both at Antenatal and postnatal wards or group counselling sessions influence EBF. Scheduled health education targeted at parents/in-laws to correct misconceptions about breastmilk can influence EBF.

Continuous education and counselling can reduce confusion or mixed messages that can affect EBF. Health care professionals should conduct educational sessions in which lactating mothers can participate, including sessions on how to maintain breastfeeding after returning to work or perusing studies.

Development of an information leaflet with an accurate short but comprehensive message on exclusive breastfeeding which could cover all relevant information can improve EBF practise: Benefits of breastmilk, the myths about breastmilk, how to express breastmilk, storage and timing about appropriate initiation of complementary

food.

❖ **Empowerment**

Efforts should be made to increase women's confidence in their ability to breastfeed. Such empowerment involves the removal of constraints and influences that manipulate perceptions and behaviour towards breastfeeding, often by subtle and indirect means obstacles to breastfeeding within the health system and community must be eliminated

Access to both formal and informal opportunities for breastfeeding education and skill training, for example, peer learning from more experienced staff, training on the 40-hour lactating management course and discussion of breastfeeding policies. The 40-hour lactation management training should be done by all nursing final year students. The goal of the programme is that the effective implementation of the elements in this programme will result in the empowerment of the health care workers, lactating mothers and families to be able to provide positive feeding influences and better choices regarding feeding practices.

❖ **Support**

Emotional support throughout pregnancy, labour and the postnatal period is closely linked to breastfeeding success. Provision of emotional support promotes a woman's self-confidence in her ability to produce sufficient milk. A lack of such confidence and doubt in the mother's competence are common factors in the early cessation of breastfeeding. CHWs can conduct home visits to lactating mothers and support them. Mother-to-mother support groups can also be established in communities to

encourage mothers to exclusively breastfeed their infants. It is the responsibility of the family to support lactating mothers by giving them time to break from household chores to have enough time to breastfeed the baby. During the intrapartum period, health care workers should: Encourage and support labour and birth practices to support early breastfeeding; Facilitate and support skin-to-skin contact and early initiation of breastfeeding; Postpone all routine neonatal procedures that are not life-saving, for example, washing, Place infants skin-to-skin with their mothers immediately following birth for at least an hour to facilitate early initiation of breastfeeding which can decrease the risk of maternal haemorrhage, newborn hypoglycaemia and increase EBF; Ensure that mothers are offered the support necessary to acquire the skills of correct positioning and attachment of their infants for optimal breastfeeding (DoH, 2013).

7.2.5. Selecting Theory-Based Intervention Method and Practical Application

A theoretical method is a general technique or process for influencing changes in the determinants of behaviours and environmental conditions (Rogers ,2003). This study employed the Diffusion of Innovation Theory (DIT). This theory suggests methods and applications to influence the determinants and accomplish the performance objectives for adoption, implementation and sustainability of a new behaviour (Rogers, 2003). Communication within the community about innovation is essential for the diffusion. In this study, the researcher consulted with the stakeholders; district health managers, PHC managers, dieticians and nutritionist to stimulate communication and mobilize social support for the innovation. The findings from conducted workshops were presented from the needs assessments, and the challenges in the implementation of

EBF identified.

Table 7.1: Proposed educational programme to promote EBF strategies

Target Group	Identified Problem	Programme Objective	Activities	Responsibility	Expected Outcome	Time and Place
Health care workers	1. Limited resources (Workload and time constriction due to the shortage of staff)	To promote EBF	<ul style="list-style-type: none"> a. Encourage women to have a companion: family members, spouses, parents/in-laws and relatives during ANC, labour and on discharge to give them accurate information on the management of EBF b. Link pregnant women with CHWs for on-going education and monitoring of EBF for six months c. Use of audio-visual equipment such as video at waiting areas. in the health facilities d. Multi-tasking: Educate communities and families during chronic conditions visits daysvisit (include breastfeeding topics) e. Distribute information leaflet to the lactating mothers, families and communities f. Formal daily delegation of staff. 	<ul style="list-style-type: none"> a. Dieticians b. Professional nurses c. Community health workers (CHWs) d. Mother mentors 	Improved EBF practice	<ul style="list-style-type: none"> a. Daily during working hours b. In the health care facilities. c. During ANC and Immunization services

Table 7.1: Proposed educational programme to promote EBF strategies (continued)

Target Group	Identified Problem	Programme Objective	Activities	Responsibility	Expected Outcome	Time and Place
Health care workers	2. Lack of specialized knowledge and training in the support of breastfeeding among health care workers.		<ul style="list-style-type: none"> a. Training of health care workers on the 40 hours' lactation management course b. In service training and updates to health care workers. c. Train mother mentors and CHW on 40 hours' lactation management course d. Train all student nurses on 40 hours' lactation and management course before they complete their training. e. Skill audit to identify the learning need. 	<ul style="list-style-type: none"> a. Dieticians b. Universities, nursing colleges and schools 	<ul style="list-style-type: none"> a. Policies on breastfeeding should be adhered to. b. Capacity building of health care workers. c. Empowerment of mother mentors and CHW. 	In the health care facilities
Lactating mothers. Working/student mothers	1. Busy schedule working/ student mothers tend to stop EBF because of going back to work.	To promote EBF	<ul style="list-style-type: none"> a. Encourage breastfeeding at night and expressing of breast milk b. Rest and fully breastfeed while still on maternity leave. c. Health education during ANC and postnatal mother. 	Health care workers	motivated and supported lactating mothers to continue with EBF at work or school	<ul style="list-style-type: none"> a. From birth to six months b. In the community during outreach programmes: Door-to-door, chief's kraal during gatherings and in the families, households

/Continued

Table 7.1: Proposed educational programme to promote EBF strategies (continued)

Target Group	Identified Problem	Programme Objective	Activities	Responsibility	Expected Outcome	Time and Place
Lactating mothers. Working/student mothers			<ul style="list-style-type: none"> d. Encourage one hr lactating break and lactation rooms. e. Expansion of maternity leave. Expression and storage of breastmilk 			
	2. Illness of the mother (HIV+ and breast conditions)	To promote EBF	<ul style="list-style-type: none"> a. Give information to correct all myths about infecting baby b. Encourage cup feeding if the mother is having cracked nipples. c. Encourage a good balance diet and supplement to the mother. 	<ul style="list-style-type: none"> a. Professional nurses b. Dieticians c. Mother mentors 	<ul style="list-style-type: none"> a. HIV+ mothers supported on breastfeeding their infant exclusively for six months b. lactating mothers to be empowered with knowledge and skill on expressed breastfeeding usage and storage. 	<ul style="list-style-type: none"> a. Throughout pregnancy, labour at post-delivery up to six months b. In the community and health care facilities
	3. Parental/ in-laws influence	To promote EBF strategies.	<ul style="list-style-type: none"> a. On-going health education to pregnant women along with their parents/ in-laws and spouses and relatives in the community b. Periodic visits to continue giving health education at home to the lactating mothers 	<ul style="list-style-type: none"> a. Community health workers 	community empowered with knowledge and skills on the benefits of exclusive breastfeeding	<ul style="list-style-type: none"> a. Throughout pregnancy, labour and post-delivery up to six months b. In the family homes. Community and health care facilities

/Continued

Table 7.1: Proposed educational programme to promote EBF strategies (continued)

Target Group	Identified Problem	Programme Objective	Activities	Responsibility	Expected Outcome	Time and Place
			<p>and family member and to mothers' EBF practices to lactating mothers.</p> <p>c. Door-to-door campaigns to give health education to families.</p> <p>d. Teach during clinic for chronic illnesses on EBF.</p>			
	4. Lack of specialize knowledge and skill of the benefits and appropriate time to introduce EBF	To improve EBF practice	<p>a. On-going health education on the benefits and skills on breastfeeding.</p> <p>b. Education on how to express breastfeeding and storage.</p>	<p>a. Health care workers</p> <p>b. Professional nurses</p> <p>c. Dieticians</p>	Reduced mortality and morbidity to poor feeding practices.	<p>a. Throughout pregnancy, labour and post-delivery up to six months</p> <p>b. In the family homes. Community and health care facilities</p>
	Lack of motherly love (Teen mothers)	To promote EBF practices	a. Give mother support psychological support to the mothers.	a. CHWs	reduced worry and stress that lead to lack of motherly love that reduces EBF practices, and emotional support to those lactating mothers who got pregnant through rape and unwanted pregnancy.	a. In the family homes. Community and health care facilities

Table 7.1: Proposed educational programme to promote EBF strategies (continued)

Target Group	Identified Problem	Programme Objective	Activities	Responsibility	Expected Outcome	Time and Place
Communities/ family Community/ faulty issues	Culture, norms, religion and beliefs	To promote EBF	<ul style="list-style-type: none"> a. Conduct door-to-door campaign to give health education to the families about the benefits of EBF. b. Give health education at primary level, at royal gathering or during civil meetings to correct myths about breast milk. c. Distribute information leaflet with EBF information and distributed to the communities during gathering. d. Involvement of stakeholders for example traditional leaders and pastors. e. Capacity building of stakeholders 	a. CHWs	promoted EBF strategies.	a. In the family homes and Community

Health care worker-related challenges were under-resourced facilities which are associated with lack of time due to shortage of staff. Lactating mothers' challenges included a proportion of mothers returned to work and young mothers going back to school immediately after giving birth outside the home with first few months after delivery. Three other exceptionally difficult circumstances were: mother's illness, cultural and religious beliefs.

Community-based breastfeeding promotion and support is important, as this approach can achieve sustained community-level breastfeeding behaviour change. This programme requires a systematic application of behaviour change theory to strategies that engage individuals and the community. A community-based intervention involves attention to community capacity and a specific intervention intended to produce behaviour change (Minkler & Wallerstein, 2012). This can be achieved by considering the foundation for community-level breastfeeding behaviour change, discussing specific interventions, discussing the integration of community-based breastfeeding initiatives with preventive and primary health care services.

Community-based intervention includes support groups such as lactating mothers supporting each other in the community where mothers who managed to exclusively breastfeed their infants to six months encouraging new mothers to do so. These intervention measures include teamwork where the health care facilities work with the community to scale up the rate of EBF yet reducing the burden of diseases.

Training of CHWs increases the capacity for effective and sustainable community-

based behaviour change. Collaborating with traditional healers and pastors to clarify values, beliefs and practices that most significantly affect breastfeeding behaviour, and with that understanding to shape messages and approaches that are likely to result in breastfeeding behaviour change. For example, the needs assessment findings include a lack of knowledge about the appropriate time to introduce solid food, lack of knowledge and beliefs that expressed breastmilk is dirty and contaminated. Improved breastfeeding practices are more likely to occur if women perceive them as beneficial, feasible and socially acceptable (Rogers, 2003).

Improving and promoting EBF requires behaviour change strategies that lead to changes in community norms, including both individual and group approaches. A lactating mother typically does not make a decision alone, for example, the health care workers may teach about the benefits of EBF at the health care facilities, but then a mother is advised by her mother-in-law that babies need additional holy water for protection or herbal soft porridge. As only breastmilk for her infant will result in the disapproval of her parent/parents-in-law and potentially her community, the woman may decide that the risk of adopting the recommended practice is too high.

Behaviour change and community-based approaches are useful to empower people in a sustainable way. The Stages of Change Model (Table 7.2) is a useful tool for looking at the process of behaviour change. In this model, the individual moves from pre-awareness of the recommended practice to awareness, contemplation of trying the new practice.

Table 7.2: Stages of change model

Stages of changes	Level of knowledge and attitude toward or experience with the new practice	Purpose of appropriate communication interventions to move an individual to the next stage
Pre-awareness	Has not heard of new practice	Provide information
Awareness	Has heard of new practice	Provide more information and begin to focus on persuasion
Contemplation	Considers the resources and tasks needed to perform the practice	Provide encouragement that practice is “do-able “and introduce role-playing, role modelling
Intention	Intends to try a new practice	Focus on appreciating benefits and overcoming obstacles; introduce negotiation of trying new practice; home visits are very appropriate
Trial of new practice	Tries new practice to experience benefits and overcome obstacles	Reinforce benefits and overcoming of overcoming obstacles with family and community influential; provide additional support to mother through home visits and support groups
Adoption of new practice	Appreciates benefits and has overcome obstacles during the trial of new practice; adopts the practice	Continue to reinforce and support practice, including praise from influential
Maintenance	Reinforce to continue the new practice	Continue to reinforce and support practice, including praise from influential
Telling others	Believes in the new practice and wants to tell others	Provide opportunities for practitioners to communicate their messages to other women or within the community events and advocacy; interpersonal communication)
<i>Source: (LINKAGES Project, Rogers, 2003)</i>		

This model enables the implementers first to identify the stage of the target audience and then to structure interventions to move individuals along the process of change. The Stages of the Change Model indicate that knowledge is not enough. A woman may be having knowledge but not implement it. If the health care workers ask the

mother and the family members to try a new practice such as to give the infant only breastmilk, the lactating mother and the family will immediately see for themselves the advantages of EBF and may be convinced to adopt it thus, the individual is persuaded through negotiation to move along the change process from knowledge to trial increasing the chances of adoption.

To maintain the new practice, a woman needs support from her family and community. Successful breastfeeding programmes have used group approaches that address special audiences or the collective community while strengthening the capacity of community organizations. Encouraging community members to identify and solve problems increases support for the mother's decision and increases the likelihood that she will maintain the new behaviour.

7.2.6. Stages of Changes and Communication Approaches

Movement from one stage of change to another requires a mix of appropriate communication interventions from the following categories: community groups, individual counselling, mother-to-mother support groups and home visits. These approaches help change individual behaviours and social norms and are directed to mothers as well as to family members, community leaders, and other social, religious, and political influencers.

DIT (Rogers, 2003) is useful for examining how innovative ideas are introduced and adopted in a community. Innovations are more easily adopted when they have certain characteristics, such as the ease of adoption, similarity to current practice, and the benefits that outweigh the disadvantages. When an innovation is introduced to a

community by early adopters, others observe the results and gradually adopt the practice themselves. Long-term change of a community norm occurs when a critical mass of community members has tried the innovation and begun to see its benefits.

Per Rogers, the process of diffusion of innovations has five steps (Figure 7.2):

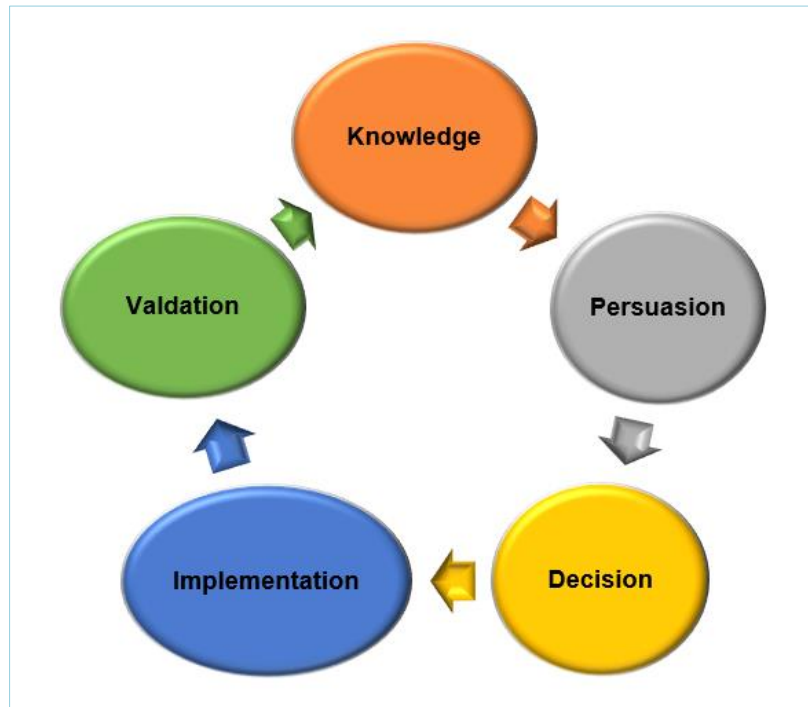


Figure 7.2: The process of diffusion of innovations (Rogers, 2003)

1. The first step is 'knowledge'; Information about the innovation is very important. Lactating mothers, community and family must firstly have knowledge on the benefits of EBF through education, motivation and support. Education alone is not enough, and strengthening community action will be of significance.
2. Step two, persuasion, in which the individual becomes interested and learn more about the innovation.

3. This leads to stage three, decision - the individual must now decide whether she is going to use this idea.
4. Stage four then becomes implementation as the individual begins to use the innovation and finally have confirmation, the trial decision to continue using innovation.

7.2.7. Intervention Programme

The developed programme is aimed at promoting EBF for the first six months of life, with appropriate complementary feeding beginning at six months with continued breastfeeding to two years and beyond. These behaviours are promoted during ANC, delivery, post-delivery, immunization, growth and monitoring and well-baby clinic. The infant and young child feeding policy applies that EBF and feeding practices should be promoted to different continuum of mothers, infants and young child, namely, antenatal, intrapartum, postnatal and follow-up care and covers early initiation of breastfeeding in health facilities; EBF and feeding the infant in the context of HIV (WHO, 2013). The developed programme uses educational strategies and group activities to change individual behaviour, while at the same time educating and engaging those who influence lactating mothers' choices. Continuous monitoring of breastfeeding at home and counselling after discharging from the hospital provides opportunities for health care workers to negotiate with mothers to adhere to a new practice; this programme was designed to address this issue.

7.2.8 Programme Components and Materials

The aim of the developed intervention is to promote EBF, through addressing multifactorial determinants of breastfeeding identified during the needs assessment including the myths (Table 7.6). An intervention focus on mothers, families and communities were developed comprising of a series of health talks (Appendix 17) and information leaflet (Appendix 18) which will be given to the lactating mothers and community after health talks. The developed programme comprises of three components which were pivotal to achieve the aim of the intervention. The components include Training of CHWs, Healths talks for pregnant women and lactating mothers; Family and community.

The first component focused on training of CHWs on implementing the intervention activities utilising the developed health talks. Training of the CHWs will include: A group discussion session and lecture about EBF, emphasising the benefit of EBF, modifying the wrong ideas on the nutrition needs for baby, 15 minutes of practice for breastfeeding position and latching-on, and 15 minutes of discussion of EBF plan and sharing with other experienced mothers or nursing staff for successful breastfeeding experience:

The CHWs would assist the lactating mothers, families and community with achieving all the expected outcomes of the intervention programme, which include topics suggested by the programme adopters during the workshops.

The second component focused on pregnant women and lactating mothers. Health talks (Appendix 17) were developed as a guide for health education content to be taught to pregnant women, lactating mothers' family/community by the CHWs. The

health talks include benefits of EBF, how to express and store breastmilk, myths around breastfeeding, how to use a cup to feed EBM and how to manage EBF at work/school. This would be achieved by using demonstrations and group discussion.

The third component is focusing on families/community. After the training, CHWs will conduct awareness /door to door campaigns: Community/families will be taught about the myths around breastfeeding, the appropriate time to introduce solid food and how to use a cup to feed breastmilk. Both the health talks and the information leaflet comprise of the following topics Table 7.3.

Table 7.3: Health talks and Information leaflet topics

1.	The benefits of EBF
2.	How to express breast milk
3.	Breast milk storage
4.	Use of a cup to feed the baby
5.	Myths about breast milk
6.	Breastfeeding and appropriate time to introduce solid food at six months

7.3. Validation of the Developed Intervention Programme

Eleven respondents validated the developed intervention which and included 50% dieticians, 17% managers and 33% professional nurses (Figure 7.3).

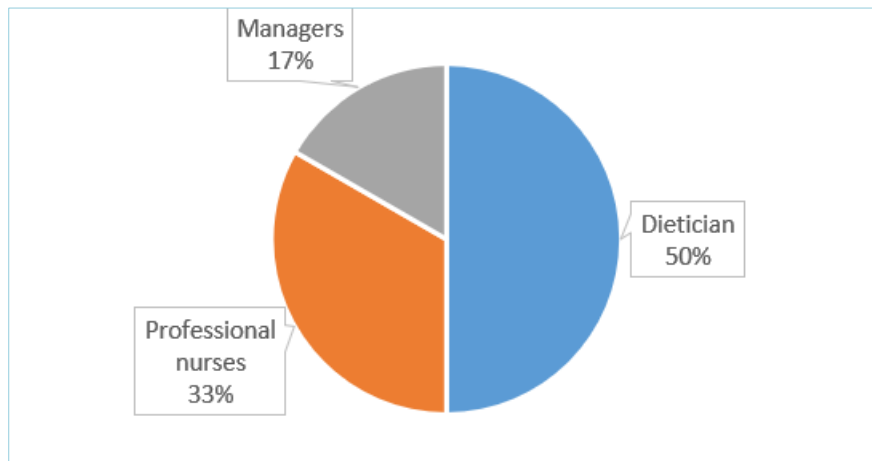


Figure 7.3: Distribution of respondents by occupation

The aim of validation was to evaluate the compatibility, flexibility, relative advantage and quality of the intervention programme. The objectives to validate the programme were to: determine the credibility of the programme; substantiate the accuracy and feasibility of the concepts used in the intervention programme and examine the suitability of its adoption in the institutional practice.

The results show that 100% of respondents showed an affirmative acceptance (Table 7.4).

Table 7.4: Results on validation of programme

Validation questions	n=11		Mean	Std Dev
	Yes	No		
	f (%)	f (%)		
1. Is an intervention programme goal clear?	11 (100%)	0 (0)	1	0
2. How simple is the programme-is it easy to implement?	11 (100%)	0 (0)	1	0
3. How general is the programme, is there, or might there be a similarity between the programme and practice variable?	11 (100%)	0 (0)	1	0
4. Is the programme easily accessible?	11 (100%)	0 (0)	1	0
5. How important is the programme?	11 (100%)	0 (0)	1	0

The findings show that the goals of the intervention programme were clearly stated making the programme simple and easy to implement. The results also indicate that respondents felt that there were similarities between the practice variable. This indicates that the programme emphasized the practical aspects of the solution to the problem being solved. Programme accessibility to implementers was also affirmed, positive implying that it was easy to interpret and to act on it by any health staff interested to solve the existing problems. Finally, there was a unanimous affirmation of the importance of the intervention among 100% validators. This finding shows that the intervention programme met the minimum expectations of the validators in clarity, simplistic, implement ability and accessibility in general.

The results in Table 7.5 showed the validation of the quality of the programme developed from the findings of this study. Hundred percent (100%) of the respondents

affirmed that the programme was written in a comprehensive manner covering a wide range of key activities to be addressed. Hundred percent (100%) respondents concurred that the targeted audiences and scope of the application were specified clearly in the programme. However, 75% of the respondents affirmed that the search for evidence was systematic and the criterion used to select the evidence were described while 25% were not sure. Hundred percent (100%) respondents affirmed that the programme's recommendations were clearly stated and the evidence they are based on, were also clearly presented.

The mean score of 2.42 (SD=1.00) show the overall quality of the programme based on the given scores, was rated as very good by 41.7% and good 58.4% by respondents. This finding shows that the overall quality of the programme was good. 100% respondents were eager to recommend the use of the programme in the district. The findings implied that the stakeholders agreed that the developed programme can improve the outcome and promote EBF strategies in Limpopo Province and the validation of the programme generally indicate the success of a developed programme in this research study.

Table 7.5: Validation of the quality of the programme

	Respondents (n=12)			
	Dietician f (%)	Professional Nurses f (%)	Managers' f (%)	Total f (%)
The programme had been written in a generally comprehensive manner.				
Yes	6 (50)	4 (33.3)	2 (16.7)	12 (100)
To some extent	0 (0)	0 (0)	0 (0)	0 (0)
No	0 (0)	0 (0)	0 (0)	0 (0)
Total	6 (50)	4 (33.3)	2 (16.7)	12 (100)
The programme target audiences and the scope of the application were specified.				
Yes	6 (50)	4 (33.3)	2 (16.7)	12 (100)
To some extent	0 (0)	0 (0)	0 (0)	0 (0)
No	0 (0)	0 (0)	0 (0)	0 (0)
Total	6 (50)	4 (33.3)	2 (16.7)	12 (100)
The search for evidence was systematic and the criterion used to select the evidence were described.				
Yes	5 (41.7)	3 (25)	1 (8.4)	9 (75)
To some extent	1 (8.4)	1 (8.4)	1 (8.4)	3 (25)
No	0 (0)	0 (0)	0 (0)	0 (0)
Total	6 (50)	4 (33.3)	2 (16.7)	12 (100)
The programme recommendations are unambiguous and the evidence they are based on is clearly presented.				
Yes	6 (50)	4 (33.3)	2 (16.7)	12 (100)
To some extent	0 (0)	0 (0)	0 (0)	0 (0)
No	0 (0)	0 (0)	0 (0)	0 (0)
Total	6 (50)	4 (33.3)	2 (16.7)	12 (100)
The overall quality of the programme based on the above score				
Very Good	2 (16.7)	2 (16.7)	1 (8.4)	5 (41.7)
Good	4 (33.4)	2 (16.7)	1 (8.4)	7 (58.4)
Poor	0 (0)	0 (0)	0 (0)	0 (0)
Total	6 (50)	4 (33.3)	2 (16.7)	12 (100)
Would you recommend the programme to be used?				
Yes	6 (50)	4 (33.3)	2 (16.7)	12 (100)
To some extent	0 (0)	0 (0)	0 (0)	0 (0)
No	0 (0)	0 (0)	0 (0)	0 (0)
Total	6 (50)	4 (33.3)	2 (16.7)	12 (100)

7.4 Plan for Implementation of the Programme

This is step five of IM. Essentially, it is applying IM to plan the implementation of the programme. Potential adopters and implementors, which are health care managers, professional nurses and dieticians were identified and involved in the development and validation of the programme. The adopters and implementors will also be involved in the piloting of the programme before roll out to the selected districts. As the aim of the pilot is to investigate whether the programme is working or not, there is a need for it to be tested in the real world before it could be implemented. Piloting will be done in one district selecting one local area.

7.5 Evaluation Plan of the Developed Intervention Programme

The final step of IM, programme evaluation is the process of assessing how it is implemented and the extent to which it has reached the target population (Bartholomew *et al.*, 2011). The process evaluation will be conducted after the pilot. Effect and impact evaluation will be done after the implementation which is beyond this study.

7.6 Summary

This chapter covered the development of an educational programme to promote EBF in Limpopo Province. The programme was developed using IM. The programme was then validated, DIT was adopted to verify compatibility, flexibility and relative advantage of the programme

CHAPTER 8

STRENGTHS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION OF THE STUDY

8.1 Introduction

The previous chapter outlined the development of an intervention and validation of the intervention. This chapter presents the summary, strengths and limitation and the recommendations. Recommendations related to the implementation of EBF were made.

8.2 Summary of the Study

The main aim of the study was to develop an intervention programme to promote EBF strategies in Limpopo Province, to achieve this aim, the study used a convergent mixed-method design to explore the implementation of EBF and the challenges in Limpopo Province. To capture multiple views on the problem, different types of data were collected from participants at different levels, professional nurses working with pregnant women and lactating mothers, lactating mothers and managers, including dieticians.

The researcher conducted 30 in-depth interviews with professional nurses, surveyed lactating mothers and conducted two workshops with the managers. Policies,

guidelines and literature was also reviewed. The in-depth interview findings allowed the researcher to identify the factors that influence EBF implementation.

The identified factors were divided into three categories, personal (lactating mothers), health workers and family/community. Personal factors were lack of knowledge on the benefits of EBF; low-level skills on hand expressing breastmilk and storage; students and working mothers; teen mothers, parental/in-laws influences and myth about breastmilk. Health workers' factors included: Lack of resources (workload, time constriction and shortage of staff) and lack of specialized knowledge and skills on breastfeeding management. Community/family factors were culture, religion and beliefs, lack of knowledge on the benefits of EBF, management of EBM and storage and myths about breastmilk. An intervention programme has been developed and validated by the stakeholders.

8.3 Strengths and Limitations

This study draws strengths from the convergence mixed-methods approach applied in the first phase of the study (*Need Assessment*). The approach allowed the use of multiple worldviews or paradigms for greater assortment of divergent views and perspectives and alerted the researcher to possibilities and issues. It combined inductive and deductive reasoning. The design was straightforward to describe, implement and report the phenomena. It provided the strength that offsets the weaknesses of both qualitative and quantitative designs and, therefore, had provided better inferences. Inclusion of the quantitative component allowed triangulation and made it acceptable to quantitative biased audience (De Vos *et al.*, 2011; Creswell & Clark, 2011). The other intention was to merge the results from quantitative and

qualitative data to provide a different insight; the combination contributed to seeing the problem from multiple angles and multiple perspectives (Creswell, 2014). To achieve the purpose of the study, the researcher employed the IM method to develop an educational programme to promote EBF strategies in Limpopo Province. IM guided the study with other theories which included modified PRECEDE model and DIT. The modified PRECEDE model assesses the needs of the population which is the first step of IM. The researcher first presented the findings of the needs assessment and then developed the logic framework and participated in the validation of the programme. DIT also used in the plan to implement the programme. The DIT is useful for examining how innovative ideas are introduced and adopted in a community.

However, in this study, transferability and generalizability of research findings to other provinces may be difficult. The use of sampling methods interfered with the representativeness of the collected data and the use of mixed-method minimized bias. The researcher conducted the study in Limpopo Province, and some provinces may not be experiencing the same constraints of resources. The study was limited to the Limpopo Province, and the sample included health care workers and lactating mothers in the province. Therefore, transferability or generalization of the findings to all nine provinces may be complex.

The study was also vulnerable to social desirability bias in which some professional nurses refused to participate in the study, stating issues of time and lack of knowledge and understanding of research, they refused even to listen to the researcher when explaining the purpose of the research.

8.4 Recommendations

The recommendations include what the managers, government and policymakers could do to assist health care workers promoting EBF in Limpopo Province. The recommendations are therefore presented related to the Department of Health, Policymakers, Education and Practice and for further Research.

8.4.1 Department of Health

- ❄ Revise the staffing policy and replace with a policy that promotes safe staffing norms in the birthing facilities;
- ❄ Managers must be hands-on duty, especially when there is a shortage of staff;
- ❄ Replace the staff gone on pension and the deceased on time;
- ❄ Establish a referral system and link lactating mothers with community health workers to ensure proper monitoring of EBF;
- ❄ Timeous and efficient training of community health care workers on the 40 hours' lactation management course;
- ❄ Usage of breastfeeding policy to promote EBF;
- ❄ Identify an influential breastfeeding advocate from amongst staff to champion the breastfeeding cause and make it a standing item on the agenda; and
- ❄ Identify a suitable and private space to breastfeed or express breast milk

8.4.2 Education and Practice

- ❄ Training institutions can use the study findings in the enhancement of the

inclusion of the 40-hour lactation management training in their curricula;

- ❖ On-going education to the pregnant women and lactating mothers including families and community;
- ❖ In-service training of nurses on lactation management courses;
- ❖ Intensify information giving through mother and CHWs; and
- ❖ Always promote peer teaching about the benefits and management of EBF in all categories of health care professionals.

8.4.3 Policymakers

- ❖ Maternity leave policy must be expanded from four months to six months;
- ❖ Policies that allow the integration of services, involvement of stakeholders such as traditional leaders and pastors to promote EBF;
- ❖ Policies that facilitate a one-hour breastfeeding break and rooms with comfortable chairs and refrigeration in the school and working environment;

8.4.4 Further Research

The study revealed that there is the substandard implementation of EBF due to shortage of staff, lack of specialized skills and knowledge and no emphasis on the evaluation of strategies that are in place to implement EBF. The researcher, therefore, recommends that the university engage the districts and other provinces in conducting on-going service delivery or implementation research to help to clarify some of the assumptions made in the study about challenges in the implementation of EBF and

help to improve implementation.

8.5 Conclusions

This study was designed to develop an intervention programme to promote EBF strategies in Limpopo Province. To achieve this purpose, formative research was conducted, and a robust methodology that combines qualitative and quantitative research approaches were used, thereby ensuring a comprehensive enquiry spanning the length and breadth of the research topic. Guided by a theoretical framework, the analysis revealed several challenges to the implementation of EBF in Limpopo Province. This included a shortage of staff which is associated with a heavy workload and limited for breastfeeding support in the health care facilities, cultural and religious beliefs, lack of appropriate knowledge regarding breastfeeding and illness of the mother.

This study provided evidence that informed the strategies applied in the development of the programme. The developed intervention programme was validated by the stakeholders, and the results indicate that the programme is congruent with the practice and can be useful in promoting EBF. It is hoped that policymakers in Limpopo Province would find this programme useful in their quest to promote EBF. However, further research is needed to implement and evaluate the effectiveness of this programme and its feasibility in terms of its implication and acceptability.

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APPENDIX 1

ETHICAL CLEARANCE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:

Ms AG Mudau

Student No:

11551371

PROJECT TITLE: An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province, South Africa.

PROJECT NO: SHS/18/PH/25/2108

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr JT Mabunda	University of Venda	Promoter
Dr LF Mushaphi	University of Venda	Co - Promoter
Ms AG Mudau	University of Venda	Investigator – Student

ISSUED BY:

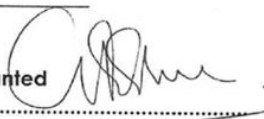
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: August 2018

Decision by Ethical Clearance Committee Granted

Signature of Chairperson of the Committee:

Name of the Chairperson of the Committee: Senior Prof. **G.E. Ekosse**




University of Venda

PRIVATE BAG X5050, THOHAYANDOU, 0950, LIMPOPO PROVINCE, SOUTH AFRICA
TELEPHONE (015) 962 8504/8313 FAX (015) 962 9060

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UNIVERSITY OF VENDA DIRECTOR RESEARCH AND INNOVATION 2018 -08- 23 Private Bag X5050, Thohoyandou 0950
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APPENDIX 2A

REQUISITION TO CONDUCT RESEARCH IN LIMPOPO PROVINCE

University of Venda
Private Bag X5050
Thohoyandou 0950
South Africa
25/08/18

The Head of Department
The Department of Health
Limpopo Provincial Government
South Africa

Dear Sir/Madam

Request to Conduct Research in Limpopo Province

I Mudau Azwinndini Gladys, a PHD Student in the Department of Public Health at the University of Venda hereby request for permission to conduct research at selected districts in Limpopo Province. The title of the study is ***“An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province”***

This study has been prompted by the problem of extremely low rates of exclusive breastfeeding leading to an alarming rate of mortality among infants. The study will be conducted among health care workers. Interview will be conducted with health care workers and self-administered questionnaires will be administered to collect quantitative data.

The aim is to develop an intervention programme to promote exclusive breastfeeding strategies. This will be achieved by evaluating the challenges experienced by health care workers and exploring the challenges experienced by mothers on exclusive breastfeeding. I am hoping that the results of the study will assist in improving the quality of lives of children and help in the reduction of infant morbidity and mortality in the Limpopo Province.

The study will involve the following process: Identifying the participants; giving them information about the aim of the study; and eventually interviewing them individually. All information gathered in this study will be kept strictly confidential, and no information will be used for purposes other than those it is intended for. Participants will participate in the study voluntarily and withdrawal from the study at any time will be allowed. Anonymity will be assured. Ethical clearance has been obtained from the University of Venda and is attached to this letter.

I trust my request will meet with your approval. Your assistance in facilitating the research will be highly appreciated.

Yours Sincerely
Mudau Azwinndini Gladys
(Student number 11551371)
mudauazwinndini@gmail.com
Cell: 0794932339

APPENDIX 2B

APPROVAL FROM PROVINCIAL DEPARTMENT OF HEALTH



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Stander SS (015 293 6650)

Ref: LP_201808_017

Mudau AG
University of Venda

Greetings,

RE: An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province, South Africa

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
 - Research must be loaded on the NHRD site (<http://nhrd.hst.org.za>) by the researcher.
 - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
 - In the course of your study there should be no action that disrupts the services, or incur any cost on the Department.
 - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - The above approval is valid for a 3 year period.
 - If the proposal has been amended, a new approval should be sought from the Department of Health.
 - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.


Head of Department


Date

Private Bag X9302 Polokwane
Fidel Castro Ruz House, 18 College Street, Polokwane 0700. Tel: 015 293 6000/12. Fax: 015 293 6211.
Website: <http://www.limpopo.gov.za>

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APPENDIX 3A

LETTER TO VHEMBE DISTRICT MUNICIPALITY MANAGER

University of Venda
Private Bag X5050
Thohoyandou 0950
South Africa
09/09/18

The District Manager
Vhembe District
Private Bag X5006
Thohoyandou
0950

Dear Sir/Madam

Request to conduct research in Vhembe District

I, Mudau Azwinndini Gladys, a PHD Student in the Department of Public Health at the University of Venda, hereby request for permission to conduct research in selected districts of Limpopo Province.

The title of the study is "***An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province***" This study has been prompted by the problem of extremely low rates of exclusive breastfeeding leading to an alarming rate of mortality of infants. The study will be conducted among health care workers and lactating mothers; interviews will be conducted with health care workers and questionnaires will be administered to collect quantitative data.

The aim is to develop an intervention programme to promote exclusive breastfeeding. This will be achieved by evaluating the challenges of health care workers and exploring the challenges experienced by mothers on exclusive breastfeeding. I hope that the results of the study will assist in improving the quality of lives of children and help reduce of infant morbidity and mortality in the Limpopo Province.

The study will involve the following processes: Identifying the participants; giving them information about the aim of the study and eventually interviewing them individually. All information gathered in this study will be kept strictly confidential, and no information will be used for purposes other than those it is intended for. The participant's decision to participate in this research will be voluntary and withdrawal from the study at any time will be allowed. Anonymity will be assured. Permission from the Provincial Department of Health has been sought and Ethical clearance has been obtained from the University of Venda (Find attached).

I trust my request will meet with your approval. Your assistance in facilitating the research will be highly appreciated.

Yours Sincerely
Mudau Azwinndini Gladys
(Student No 11551371)
mudauzwinndini@gmail.com
(0794932339)

APPENDIX 3B

APPROVAL FROM VHEMBE DISTRICT MUNICIPALITY MANAGER



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH VHEMBE DISTRICT

Ref: S5/6
Enq: Muvari MME
Date: 09 October 2018

Dear Sir/ Madam:

PERMISSION TO CONDUCT RESEARCH

MUDAN A.G.

1. The above matter bears reference
2. Your letter received on the 09/10/2018 requesting for permission to conduct research in our facilities is hereby acknowledged
3. The District has no objection to your request.
4. Permission is therefore granted for the request to be conducted within Vhembe District.
5. You are however advised to make the necessary arrangements with the facilities concerned.
6. Wishing you success in your research in the Vhembe health facilities.

[Signature]
.....
CHIEF DIRECTOR

10/10/2018
.....
DATE

Private Bag X5009 THOHOVANDOU 0950
OLD parliamentary Building Tel (015) 962 1000 (Health) (015) 962 4958 (Social Dev) Fax (015) 962 2274/4623
Old Parliamentary Building Tel: (015) 962 1848, (015) 962 1852, (015) 962 1754, (015) 962 1001/2/3/4/5/6 Fax (015) 962 2373, (015) 962 227

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APPENDIX 4A

LETTER TO MESSINA HOSPITAL CHIEF EXECUTIVE OFFICER

University of Venda
Private Bag X5050
Thohoyandou 0950
South Africa
09/09/18

The Chief Executive Officer
Messina Hospital
Private Bag X 4006
Musina
0900

Dear Sir/Madam

Request to conduct research

I, Mudau Azwinndini Gladys, a PHD Student in the Department of Public Health at the University of Venda, hereby request for permission to conduct research in selected districts of Limpopo Province.

The title of the study is “***An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province***”. This study has been prompted by the problem of extremely low rates of exclusive breastfeeding leading to an alarming rate of mortality of infants. The study will be conducted among health care workers and lactating mothers; interviews will be conducted with health care workers and questionnaires will be administered to collect quantitative data.

The aim is to develop an intervention programme to promote exclusive breastfeeding. This will be achieved by evaluating the challenges of health care workers and exploring the challenges experienced by mothers on exclusive breastfeeding. I hope that the results of the study will assist in improving the quality of lives of children and help reduce of infant morbidity and mortality in the Limpopo Province.

The study will involve the following processes: Identifying the participants; giving them information about the aim of the study and eventually interviewing them individually. All information gathered in this study will be kept strictly confidential, and no information will be used for purposes other than those it is intended for. The participant’s decision to participate in this research will be voluntary and withdrawal from the study at any time will be allowed. Anonymity will be assured. Permission from the Provincial Department of Health has been sought and Ethical clearance has been obtained from the University of Venda (Find attached).

I trust my request will meet with your approval. Your assistance in facilitating the research will be highly appreciated.

Yours Sincerely
Mudau Azwinndini Gladys
(Student No 11551371, Mudauazwinndini@gmail.com (0794932339))

APPENDIX 4B

APPROVAL LETTER FROM MESSINA HOSPITAL CHIEF EXECUTIVE OFFICER



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH
MESSINA HOSPITAL

REF: S5/4/1/2
ENQ: Mulaudzi P
DATE: 15 November 2018

FROM: HUMAN RESOURCE DEVELOPMENT

TO: MUDAU AZWINNDINI GLADYS
UNIVERSITY OF VENDA
PRIVATE BAG X5050
THOHOYANDOU
0950



RE: AN INTERVENTION PROGRAMME TO PROMOTE EXCLUSIVE
BREASTFEEDING STRATEGIES IN LIMPOPO PROVINCE .

1. The above matter has reference.
2. This office wishes to inform you that your application has been approved as per conditions stipulated on the approval letter by Head of Department. You are requested to liaise with office of the Chief Executive Officer on your commencement date.
3. Your co-operation will be highly appreciated.


CHIEF EXECUTIVE OFFICER

2018/11/15
DATE

P.O. Box 60 Musina 0900
Tel: 015 534 0446 Fax 015 534 0819

The heartland of Southern Africa – development is about people!

CONFIDENTIAL

APPENDIX 5A

LETTERS TO DONALD FRAZER HOSPITAL CHIEF EXECUTIVE OFFICER

University of Venda
Private Bag X5050
Thohoyandou 0950
South Africa
09/09/18

The Chief Executive Officer
Donald Frazer Hospital
P.O. Box 10
Vhufuli
0990

Dear Sir/Madam

Request to conduct research

I, Mudau Azwinndini Gladys, a PHD Student in the Department of Public Health at the University of Venda, hereby request for permission to conduct research in selected districts of Limpopo Province.

The title of the study is “***An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province***” This study has been prompted by the problem of extremely low rates of exclusive breastfeeding leading to an alarming rate of mortality of infants. The study will be conducted among health care workers and lactating mothers; interviews will be conducted with health care workers and questionnaires will be administered to collect quantitative data.

The aim is to develop an intervention programme to promote exclusive breastfeeding. This will be achieved by evaluating the challenges of health care workers and exploring the challenges experienced by mothers on exclusive breastfeeding. I hope that the results of the study will assist in improving the quality of lives of children and help reduce of infant morbidity and mortality in the Limpopo Province.

The study will involve the following processes: Identifying the participants; giving them information about the aim of the study and eventually interviewing them individually. All information gathered in this study will be kept strictly confidential, and no information will be used for purposes other than those it is intended for. The participant’s decision to participate in this research will be voluntary and withdrawal from the study at any time will be allowed. Anonymity will be assured. Permission from the Provincial Department of Health has been sought and Ethical clearance has been obtained from the University of Venda (Find attached).

I trust my request will meet with your approval. Your assistance in facilitating the research will be highly appreciated.

Yours Sincerely
Mudau Azwinndini Gladys
(Student No 11551371)
mudauzwinndini@gmail.com
(0794932339)

APPENDIX 5B

APPROVAL LETTER FROM DONALD FRAZER HOSPITAL CHIEF EXECUTIVE OFFICER



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH
DONALD FRASER HOSPITAL

Ref: 4/2/2
Enquiries: Mphephu V.F
Cell No: 072 1880 436
Ext. 9306/ 9348
12/11/2018

To: Mudau Azwindini Gladys
University of Venda
Thohoyandou
0950

Ref: Permission to Conduct Research Study

Topic: An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province, South Africa.

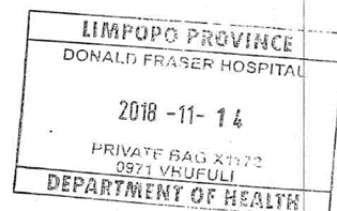
1. The above matter refers.
2. Permission to conduct the above mentioned study is hereby granted.
3. Kindly be informed that:-
 - In the course of study there should be no action that disrupts the service.
 - You to give report to quality assurance manager of Donald Fraser Hospital after the completion of the study at Donald Fraser Hospital.
 - After completion of the study, a copy should be submitted to our institution to serve as resources.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - You are therefore requested to contact nursing audit office number 5, OPD basement for logistics arrangements.
4. Please bring along the following documents.
 - Permission latter granted from department of health.
 - Permission granted from educational institution.
 - This letter.

Hoping you will find this in order.

SIGNED: 
CHIEF EXECUTIVE OFFICER

Date

14/11/2018



Private bag x1172, VHUFULI 0971
Tel +27 15 963 1778/9, 015 963 179/2. Fax +27 015 963 1796 cell: 27 83 248 0184

The heartland of South Africa. Development is about people

APPENDIX 6A

LETTER TO WATERBERG DISTRICT MUNICIPAL MANAGER

University of Venda
Private Bag X5050
Thohoyandou 0950
South Africa
09/09/18

The District Manager
Waterberg District
Modimolle

Dear Sir/Madam

Request to conduct research in Waterberg District

I, Mudau Azwinndini Gladys, a PHD Student in the Department of Public Health at the University of Venda, hereby request for permission to conduct research in selected districts of Limpopo Province.

The title of the study is "***An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province***" This study has been prompted by the problem of extremely low rates of exclusive breastfeeding leading to an alarming rate of mortality of infants. The study will be conducted among health care workers and lactating mothers; interviews will be conducted with health care workers and questionnaires will be administered to collect quantitative data.

The aim is to develop an intervention programme to promote exclusive breastfeeding. This will be achieved by evaluating the challenges of health care workers and exploring the challenges experienced by mothers on exclusive breastfeeding. I hope that the results of the study will assist in improving the quality of lives of children and help reduce of infant morbidity and mortality in the Limpopo Province.

The study will involve the following processes: Identifying the participants; giving them information about the aim of the study and eventually interviewing them individually. All information gathered in this study will be kept strictly confidential, and no information will be used for purposes other than those it is intended for. The participant's decision to participate in this research will be voluntary and withdrawal from the study at any time will be allowed. Anonymity will be assured. Permission from the Provincial Department of Health has been sought and Ethical clearance has been obtained from the University of Venda (Find attached).

I trust my request will meet with your approval. Your assistance in facilitating the research will be highly appreciated.

Yours Sincerely
Mudau Azwinndini Gladys
(Student No 11551371, Mudauazwinndini@gmail.com (0794932339))

APPENDIX 6B

APPROVAL LETTER FROM WATERBERG DISTRICT MUNICIPAL MANAGER



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH WATERBERG DISTRICT

REF: 4/3/3
ENQ: NKGODI D.R (PA TO THE DISTRICT EXECUTIVE MANAGER)
DATE: 13/12/2018
TEL NO: 014. 718 0623
E-MAIL: David.Nkgodi@dhsd.limpopo.gov.za

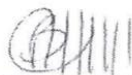
TO: MUDAU A.G
UNIVERSITY OF VENDA
PRIVATE BAG X 5050
THOHOYANDOU
0950

RE: PERMISSION TO CONDUCT RESEARCH: YOURSELF.

The above bear's reference:-

1. The office of the District Executive Manager, hereby confirms receipt of your request to conduct research on An intervention programme to promote exclusive breastfeeding strategies Limpopo Province, South Africa.
2. Permission is hereby granted as per approval by the HOD.
3. You are further requested to notify this office on when you are going to start with the research and make sure that there is no action that disturbs service delivery.

Your support and cooperation in terms of the above will be highly appreciated.



DISTRICT EXECUTIVE MANAGER
WATERBERG DISTRICT

13/12/2018
DATE

APPENDIX 7A

LETTER TO GEORGE MASEBE HOSPITAL CHIEF EXECUTIVE OFFICER

University of Venda
Private Bag X5050
Thohoyandou 0950
South Africa
09/09/18

The Chief Executive Officer
George Masebe Hospital
Private Bag X2201
Suswe
0612

Dear Sir/Madam

Request to conduct research

I, Mudau Azwinndini Gladys, a PHD Student in the Department of Public Health at the University of Venda, hereby request for permission to conduct research in selected districts of Limpopo Province.

The title of the study is “***An intervention programme to promote exclusive breastfeeding strategies in Limpopo Province***” This study has been prompted by the problem of extremely low rates of exclusive breastfeeding leading to an alarming rate of mortality of infants. The study will be conducted among health care workers and lactating mothers; interviews will be conducted with health care workers and questionnaires will be administered to collect quantitative data.

The aim is to develop an intervention programme to promote exclusive breastfeeding. This will be achieved by evaluating the challenges of health care workers and exploring the challenges experienced by mothers on exclusive breastfeeding. I hope that the results of the study will assist in improving the quality of lives of children and help reduce of infant morbidity and mortality in the Limpopo Province.

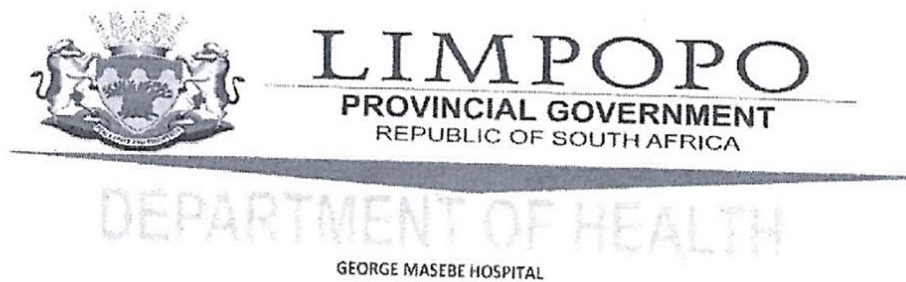
The study will involve the following processes: Identifying the participants; giving them information about the aim of the study and eventually interviewing them individually. All information gathered in this study will be kept strictly confidential, and no information will be used for purposes other than those it is intended for. The participant’s decision to participate in this research will be voluntary and withdrawal from the study at any time will be allowed. Anonymity will be assured. Permission from the Provincial Department of Health has been sought and Ethical clearance has been obtained from the University of Venda (Find attached).

I trust my request will meet with your approval. Your assistance in facilitating the research will be highly appreciated.

Yours Sincerely
Mudau Azwinndini Gladys
(Student No 11551371)
mudauzwinndini@gmail.com
(0794932339)

APPENDIX 7B

APPROVAL LETTER FROM GEORGE MASEBE HOSPITAL CHIEF EXECUTIVE OFFICER

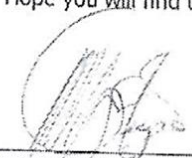


Ref: S5/1/5/2
Enq: Ms. Sebetha M.W.
Acting Assistant Director
Corporate Services
Tel: 015 423 6000
Date: 2019/02/22

TO: Mudau AG
University of Venda

RE: PERMISSION TO CONDUCT A RESEARCH AT GEORGE MASEBE HOSPITAL.

1. The above matter refers.
2. Kindly note that the hospital has received your request for permission to conduct a research on an intervention programme to promote exclusive breastfeeding strategies in Limpopo province.
3. Permission to conduct the above mentioned study is hereby granted.
4. During the course of your study ensure that they are no disruption of services and no cost incurred by the Department.
5. Upon arrival make arrangements with the office of the CEO before you commence with the study.
6. Hope you will find this in order

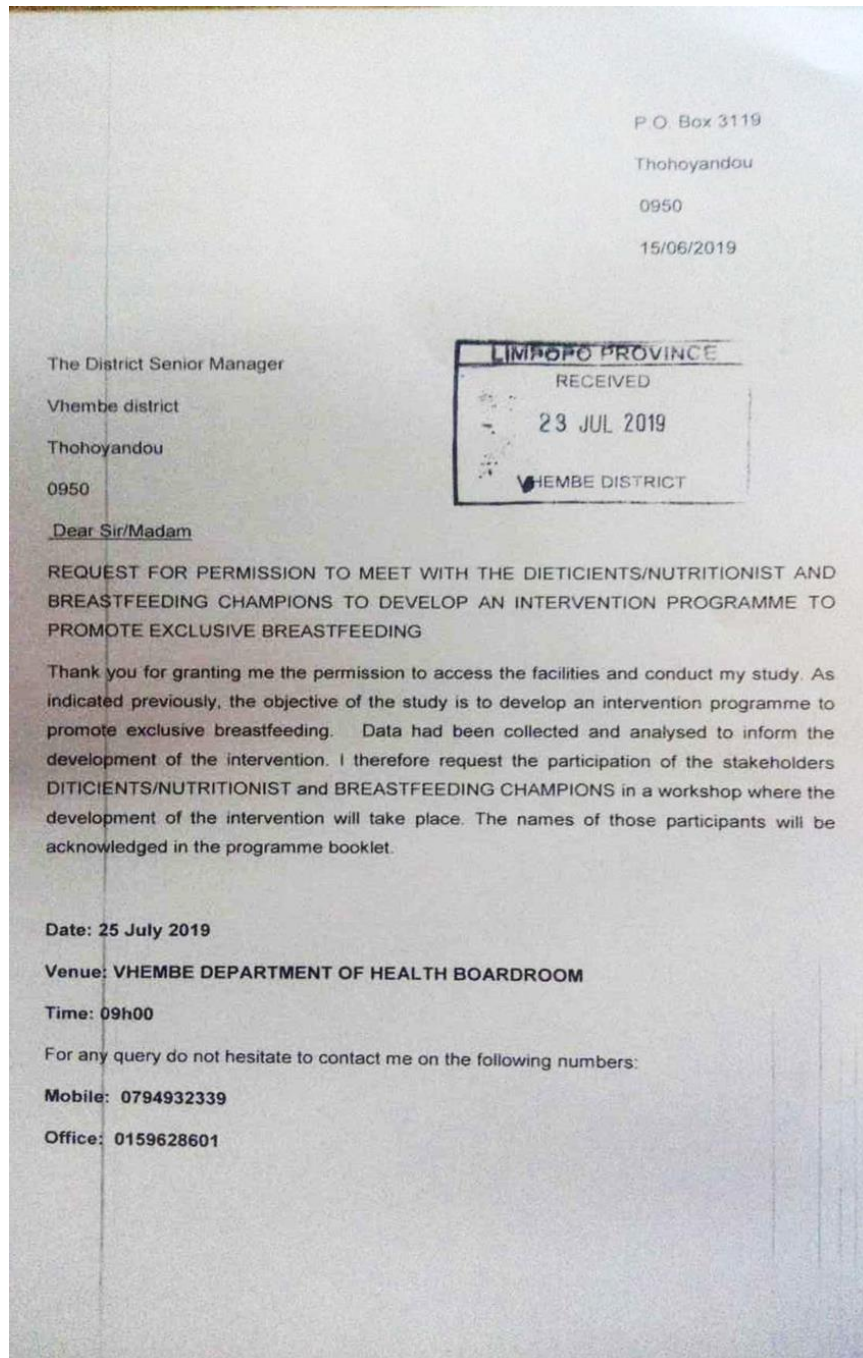

CHIEF EXECUTIVE OFFICER
Seepe ME

27/02/2019

DATE

APPENDIX 8

LETTER TO VHEMBE DISTRICT



APPENDIX 9

LETTER OF INFORMATION

Title of the Research Study: An Intervention Programme to Promote Exclusive Breastfeeding Strategies in Limpopo Province, South Africa

Principal Investigator/s/ researcher: A.G. Mudau, Master's in Public Health

Co-Investigator/s/supervisor/s: Dr J.T. Mabunda, PhD In Nursing
Dr L.F. Mushaphi, PhD In Nutrition

Brief Introduction and Purpose of the Study:

I, Mudau Azwinndini Gladys, am conducting a research study entitled "***an intervention programme to promote exclusive breastfeeding strategies in Limpopo Province, South Africa***". We invite you to participate in the research study. This information leaflet will help you to decide if you want to participate. Before you agree to take part, you should fully understand what is involved. If you have any questions that this leaflet does not fully explain, please do not hesitate to ask the researcher.

The purpose of the study is to develop an intervention programme to promote exclusive breastfeeding strategies in Limpopo Province, South Africa.

Outline of the Procedures:

The study involves filling in a questionnaire and answering interview questions verbally. The researcher will summarize the findings for you.

Risks or Discomforts to the Participant:

There is no risk in participating in the study.

Benefits:

Although you will not benefit directly from the study, the results of the study will enable us to improve breastfeeding practices.

Reason/s why the Participant May Withdraw from the Study:

Your participation in the study is voluntary. You can refuse to participate or withdraw at any time without giving reasons and your withdrawal will not affect you in any way.

Remuneration:

Your participation is voluntary. No remuneration will be given to you for participating in the study.

Costs of the Study:

You will not be expected to pay anything for participating in the study.

Confidentiality:

All information that you will give will be strictly confidential. The questionnaire is anonymous. Therefore, you are not required to write your name on it and the analysis of data will not lead you being

identified. Research reports and articles in journals will not include any information that will identify you.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher Mrs Mudau (Tel no. 079 4932 339), my supervisor Dr Mabunda (Tel no.082 8426 328), Dr Mushaphi (Tel no 0824447326) or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or Georges Ivo.Ekosse@univen.ac.za

APPENDIX 10

CONSENT FORM

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher; Mrs A.G *Mudau*, about the nature, conduct, benefits and risks of this study.
- Research Ethics Clearance Number;
- I have also received, read and understood the above written information (*Participant Letter of Information*) regarding the study;
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis, will be anonymously processed in the study report;
- In view of the requirements of research, I agree that data collected during this study can be processed (using a computerized system by the researcher);
- I may, at any stage, without prejudice, withdraw my consent and participation in the study;
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study;
- I understand that significant new findings developed during this research, which may relate to my participation, will be made available to me.

Full Name of Participant Date Time Signature

I.....

I, A.G *Mudau* herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher: Mudau Azwinndini Gladys

Date..... Signature.....

Full Name of Witness (If applicable):

Date Signature.....

Full Name of Legal Guardian (If applicable):

Date..... Signature.....

APPENDIX 11A

QUESTIONNAIRE

INSTRUCTIONS:

1. Please do not write your name or identity number on any part of this questionnaire.
2. Do not tear any page.
3. Answer all questions to the best of your ability.
4. Please do not hold any conversation with any one concerning this questionnaire and its content.
5. Tick appropriate answer or fill the gap in a space provided.
6. Date of data collection.....

SECTION A: SOCIO-DEMOGRAPHIC INFORMATION.

1. How old are you? State years _____
2. Marital status

	Code	Mark with an X
Single	1	
Married	2	
Widowed	3	
Divorced	4	

3. Number of children.

	Code	Mark with an X
One	1	
Two	2	
Three	3	
Four	4	
Other specify	5	

4. Are you working?

	Code	Mark with an X
Yes	1	
No	2	

If yes, specify your occupation

.....

5. Educational level

	Code	Mark with an X

No formal education	1	
Primary education	2	
Secondary education	3	
Tertiary education	4	

6. Infant's age: Date of birth.....

	Code	Mark with an X
0-1 Months	1	
2	2	
3	3	
4	4	
5	5	
6	6	

7. Sex/Gender of infant

	Code	Mark with an X
Female	1	
Male	2	

8. Place of delivery

	Code	Mark with an X
Health care facility	1	
Home	2	
Other specify	3	

9. Mode of delivery?

	Code	Mark with an X
Normal delivery	1	
Caesarean Section	2	

SECTION B: FACTORS CONTRIBUTING TO IMPLEMENTATION OF EXCLUSIVE BREASTFEEDING:

10. When did you start breastfeeding your baby after delivery?

	Code	Mark with an X
Within 30 Minutes	1	
Within 1hr	2	
The following day	3	
Other specify	4	

11. Who helped you initiate breastfeeding?

	Code	Mark with an X

Nurse	1	
Doctor	2	
Dietician	3	
Other specify	4	

12. Were you taught about breastfeeding?

	Code	Mark with an X
Yes	1	
No	2	

13. If yes, who taught you?

	Code	Mark with an X
Health care workers	1	
Parents/ Parents In law	2	
Radio	3	
TV	4	
Other specify	5	

14. Are you still breastfeeding?

	Code	Mark with an X
Yes	1	
No	2	

15. If no, how old was your baby when stopped breastfeeding?

	Code	Mark with an X
0-1 Months	1	
1-3 Months	2	
4-5 Months	3	
6 Months	4	

16. What was the reason for you to stop breastfeeding?

	Code	Mark with an X
Medical condition	1	
The baby refuses the breast	2	
Going back to school	3	
Going back to work	4	
Other, specify	5	

17. Do you give your baby other food or liquid like juice apart from breast milk?

	Code	Mark with an X
Yes	1	
No	2	

18. What did you give your baby?

	Code	Mark with an X
Water	1	
Soft porridge	2	
Formula	3	
Other specify	4	

19. What were the reasons for introducing other food or liquid other than breast milk?

	Code	Mark with an X
Milk was not coming out	1	
Illness of the mother	2	
Religious and cultural beliefs	3	
Breast milk was not enough	4	
Illness of the baby	5	

20. Who advised you to give your child other food/fluid other than breast milk?

	Code	Mark with an X
Baby' father	1	
Parents/ Parents in law	2	
Relatives	3	
Health care workers	4	
Own decision	5	
Friends	6	
Other specify	7	

21. Who influence your on-feeding practices?

	Code	Mark with an X
Husband/ Spouse	1	
Own decision	2	
Mother in law	3	
Health workers	4	
My own decision	5	

22. During pregnancy did you attend Ante Natal Clinic?

	Code	Mark with an X
Yes	1	
No	2	

23. Did anyone talk about breastfeeding?

	Code	Mark with an X
Yes	1	
No	2	

24. Have you ever heard about exclusive breastfeeding?

	Code	Mark with an X

Yes	1	
No	2	

25. What do you know about exclusive breastfeeding?

.....

.....

.....

Do not answer the column below

	Code	
Correct	1	
Incorrect	2	

26. During ANC did any one talk about the benefits of exclusive breastfeeding?

	Code	Mark with an X
Yes	1	
No	2	

27. Did health care workers refer you to community support or mentor mothers on discharge?

	Code	Mark with an X
Yes	1	
No	2	

SECTION C: KNOWLEDGE OF BREASTFEEDING AMONG LACTATING MOTHERS.

28. If your baby is still on exclusive breastfeeding when are you going to introduce solids/complementary food?

.....

.....

Do not answer the column below

	Code	
Correct	1	
Incorrect	2	

29. If your baby is still on exclusive breast milk only, what is it given to your baby when you are separated to him or her?

.....

.....

.....

.....

.....

.....

Do not answer the column below

	Code	
Correct	1	
Incorrect	2	

30. Have you ever been taught about how to express breast milk?

Yes	1	
-----	---	--

No	2
----	---

31. If yes who taught, you? Specify.

.....

Have you ever been taught about the following?

32. The benefits of breastfeeding?

	Code	Mark with an x
Yes	1	
No	2	

33. The importance of rooming-in?

	Code	Mark with an x
Yes	1	
No	2	

34. Positioning and attachment?

	Code	Mark with an x
Yes	1	
No	2	

35. The importance of feeding on demand?

	Code	Mark with an x
Yes	1	
No	2	

36. What mother can do to ensure that she produces enough milk for her baby?

	Code	Mark with an x
Yes	1	
No	2	

37. The importance of giving the baby only breast milk?

	Code	Mark with an x
Yes	1	
No	2	

APPENDIX 11B

TSHIBVELEDZWA

1. Vha songo ñwala dzina kana nomboro yavho ya vhuṅe kha tshibveladzwa itshi.
2. Vha songo kherula siatari na lithihi.
3. Kha vha fhindle mbudziso dzothe nga hu ne vha kona.
4. Vha songo fara nyambedzaho na munwe muthu malugana na tshibveledzwa itshi.
5. Kha vha swaye ho teaho kana vha dadze mavhaka.
6. Duvha ḽe ha ḽadziwa tshibveledzwa itshi.....

KHETHEKANYO YA A: ZWIDODOBEDZWA ZWA VHUNḼE

1. Vha na minwaha mingana?.....
2. Zwdodombedzwa zwa mbinganono:

	Khoudu	Kha vha swaye nga X
A tho ngo malwa	1	
Ndo malwa	2	
Ndo lovhelwa	3	
Ndo ḽala	4	

3. Vhana ndi vha nga na?

	Khoudu	Kha vha swaye nga X
Muthihi	1	
Vhavhili	2	
Vhararu	3	
Vhana	4	
Arali vha tshi fhira avho kha vha bule	5	

4. Vha shuma naa?

	Khoudu	Kha vha swaye nga x
Ee	1	
Hai	2	

Arali vha tshi shuma vha shuma mushumo-de?

.....

.....

5. Vho funzea u swika fhi?

	Khoudu	Kha vha swaye nga X
A thongo funzwa	1	
Kha pfunzo ya phuraimari	2	
Kha ya sekondari	3	
Theshiari	4	

6. U na minwedzi mingana: Duvha lawe la mabebo -----

	Khoudu	Kha vha swaye nga X
Ubva kha o uya kha wa u thoma	1	
U na mivhili	2	
U na miraru	3	
U na miṅa	4	
U na miṅanu	5	
U naya rathi	6	

7. Nwana wa vho ndi mbeu-de?

	Khoudu	Kha vha swaye nga X
Musidzana	1	
Mutukana	2	

8. Fhethu he a bebelwa hone.

	Khoudu	Kha vha swaye nga X
Hayani	1	
Clinic/Sibadela	2	
Hunwe vho kha vha hu bule	3	

9. Nḡila ya u beba.

	Khoudu	Kha vha swaye nga X
O bebiwa nga nḡila yawe	1	
O bebiwa nga muaro	2	

KHETHEKANYO YA VHUVHILI: ZWIITISI ZWIṬUṬUWEDZAHO U MAMISA
MIKANDO FHEDZI:

10. Vho thoma lini u mu mamisa?

	Khoudu	Kha vha swaye nga X
Hu saathu u fhela 30 minutes	1	
Nga murahu ha Awara	2	
Nga matshelo	3	
A thi tsha zwihumbula	4	
Zwinwe kha vha bule	5	

11. Vho thusiwa nga nnyi u thoma u mamisa.

	Khoudu	Kha vha swaye nga X
Nga muongi	1	

Nga dokotela	2	
Nga mueletshedzi wa zwa maḽele (Daethishiane)	3	
Arali hu muḽwe kha vha mubule	4	

12. Vho funzwa nga ha u mamisa naa?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

13. Arali vho funzwa, vho funzwa nga nnyi?

	Khoudu	Kha vha swaye nga X
Nga mushumeli wa mutakalo	1	
Vhabebi vhanga/ vhomazwale	2	
Kha radio	3	
Arali hu zwiḽwe kha vha zwi bule	4	

14. Vha kha di mamisa nwana wavho naa?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

15. Arali vha si tsha mu mamisa mikando vho mulitshisa a na miḽwedzi mingana?

	Khoudu	Kha vha swaye nga X
0-1 Nwedzi	1	
1-3 Minwedzi	2	
4-5 Minwedzi	3	
6 Minwedzi	4	

16. Zwiitisi zwo itaho uri a litshiswe u mama ḽamu ḽavho ndi mini?

	Khoudu	Kha vha swaye nga X
Vhulwadze	1	
O sokou hana u mama	2	
Ndo vha ndi khou vhuyelela mushumoni	3	
Ndo vha ndi khiu vhuyelela tshikoloni	4	
Arali hu na zwiḽwe kha vha zwi bule	5	

17. Arali ḽwana a kha ḽi mama ḽamu ḽavho, vha ya muitela na zwiḽwe zwiḽiwa naa kana zwiḽuḽi zwazwo?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

18. Arali vha tshi mu fha zwiñwe zwijiwa, vha mufha mini/kana zwijiwa-ḡe?

	Khoudu	Kha vha swaye nga X
Maḡi	1	
Mukapu	2	
Mafhi	3	
Arali hu zwiñwe kha vha zwi bule	4	

19. Dzi mbuno (**Reasons**) kana zwiitisi zwo itisaho uri vha mufhe ezwo zwijiwa ndi dzifhio?

	Khoudu	Kha vha swaye nga X
Mikando yo vha isa khou bvesa	1	
Ndo vha ndi khou lwala	2	
Vhurereli ha mvelo yang a	3	
Nwana o vha a khou lila nga ndala	4	
Nwana ovha a khou lwala	5	

20. Ndi nnyi o vha tsivhudzaho u fha zwiliwa izwo?

	Khoudu	Kha vha swaye nga X
Khotsi a ñwana	1	
Vhabebi vhanga/ vhomazwale	2	
Mashaka anga	3	
Mushumeli wa mutakalo	4	
Khonani dzanga	5	
Arali hu na zwiñwe kha vhwazwibule	6	

21. Nga u angaredza ndi nnyi o vha tsivhudzaho nga ha u mamisa?

	Khoudu	Kha vha swaye nga X
Ndi munna wanga	1	
Ndi mihumbulo yanga	2	
Mazwale/ Mubebi	3	
Mushumi wa zwa mutakalo	4	
Arali hu na zwinwe vho kha zwi bule	5	

22. Vha muimana vho vha vhatshiya tshikaloni naa?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

23. Vha tshiya tshikaloni hu na muñwe vho we a vhuya a amba nga u mamisa?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

24. Vho no vhuya vha pfa nga ha u mamisa mikando fhedzi vha sa tanganyisi?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hayi	2	

25. Vha pfesesa mini nga ha u mamisa mikando fhedzi vha sa tanganyisi na zwiñwe?

.....
.....
.....

Afha fhasi vha songo fhindula

Ndi zwonne	1
A sizwone	2

26. Musi vha tshi ya tshikaloni vho vhuya vha pfa muñwe a khou amba nga ha mbuyelo dza u mamisa naa?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

27. Mushumela mutakalo o vhuya a vha rumela kha zwa u tutuwedzana kha u mamisa naa izwi vha tshi tshatshiwa?

	Khoudu	Kha vha swaye nga X
Ee	1	
Hai	2	

KHETHEKANYO YA VHURARU: MBUELO YA U MAMISA MIKANDO.

28. Arali nwana wavho vha kha di mumamisa mikando fhedzi vha khou humbula u muthomisa lini zwiliwa?

.....
.....

Vha songo swaya kha tshibogisi tshire afha fhasi?

	Khoudu	
Ndi zwone	1	
Asizwone	2	

29. Saizwi nwana wavho a tshi kha di mama mikando fhedzi u fhiwa mini izwi vhone vha siho?

.....
.....
.....

Vhasongo swaya kha kha tshi bogisi itshi.

	Khoudu	
Ndi zwone	1	
Asizwone	2	

30. Vho no vhuya vha funziwa nga zwa u hamela mikando na?

.....

	Khoudu		Kha vha swaye nga x

Ee	1		
Hayi	2		

31. Arali vho no funziwa nga ha u hamela mikando vhofunzwa nga nnyi?
.....

Vho no vhuya vhafunzwa nga zwitevhelaho na?

32. Mbuelo dza u mamisa mikando?

	Khoudu	Kha vha swaye nga x
Ee	1	
Hayi	2	

33. Ndeme ya u dzula na nwana.

	Khoudu	Kha vha swaye nga x
Ee	1	
Hayi	2	

34. Mafarele na vhukwamani na nwana musi a tshi khou mama?

	Khoudu	Kha vha swaye nga x
Ee	1	
Hayi	2	

35. . Ndeme ya u mamisa nwana atshi khou toda (u sa mukalela tshifhinga)

	Khoudu	Kha vha swaye nga x
Ee	1	
Hayi	2	

36. Zwine mme vha nga ita uri vha vhe na mikando minzhi.

	Khoudu	Kha vha swaye nga x
Ee	1	
Hayi	2	

37. Ndeme ya u mamisa nwana mikando fhedzi

	Khoudu	Kha vha swaye nga x
Ee	1	
Hai	2	

APPENDIX 11C

DIPOTŠIŠO

TAELO

1. Ka kgopelo o seke wa ngwala leina goba nomoro ya bukwana ya boitsebišo tše
2. seke wa kgeila letlakala
3. Araba dipotšišo ka moka ka boitsepegi
4. Ka kgopelo o seke wa boledišana le o mongwe mabapi le dikagare tša dipotšišo tše
5. Thika karabo goba tlatša ka lepokisaneng leo o le humanego
6. Tšatši-kgwedi ya go tšea dipotšišo _____

Karalo A: Tlhalosolesedi ya batho ba morabe

1. O nale mengwaga ye me kae? Ngwala mengwaga _____
2. Maemo a lenyalo

	Khoutu	Maraka ka X
A se o nyalwe	1	
O nyetšwe	2	
O hlokofaletšwe	3	
O hladiilwe	4	

3. O nale bana ba ba kae?

	Khoutu	Maraka ka X
O tee	1	
Ba babedi	2	
Ba bararo	3	
Ba bane	4	
Ba bangwe hlaloša	5	

4. Oa šoma?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

Ge e le gore ke ee, hlaloša mošomo wa gago

.....

.....

.....

5. Maemo a thuto

	Khoutu	Maraka ka X
A se o tsene Sekolo	1	
Thuto ya sekolo sa tlasana	2	
Thuto ya sekolo se sephakgamego	3	

6. Mengwaga ya lesea le tšatši la pelego _____

	Khoutu	Maraka ka X
Kgwedi ya 0-1	1	
Kgwedi ya 2	2	
Kgwedi ya 3	3	
Kgwedi ya 4	4	
Kgwedi ya 5	5	
Kgwedi ya 6	6	

7. Bong bja lesea

	Khoutu	Maraka ka X
Mosetsana	1	
Mošemane	2	

8. Lefelo la pelego

	Khoutu	Maraka ka X
Bookelong	1	
Gae	2	
Go gongwe, Hlaloša	3	

9. Mohuta wa pelego

	Khoutu	Maraka ka X
O belege botse	1	
Pelego ya sekgowa	2	

Karolo B: Dinhla tše dihlatselago tšhumišo ya go nyantšha

10. thomile neng go nyantšha ngwana wa gago ka morago ga pelego

	Khoutu	Maraka ka X
Ka metsotso ye 30	1	

Ka iri	2	
Ka letšatši le latelago	3	
Tše dingwe, Hlaloša	4	

11. Ke mang a go thušitšego go thoma go nyantšha?

	Khoutu	Maraka ka X
Mooki	1	
Ngaka	2	
Ngaka ya dijo	3	
Ye nngwe, Hlaloša	4	

12. Be o rutilwe ka go nyantšha?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

13. Ge ele EE o rutilwe ke mang?

	Khoutu	Maraka ka X
Mošomi wa maphelo	1	
Motswadi/Mmatswale	2	
Radio	3	
TV	4	
Tše dingwe, Hlaloša	5	

14. Sa nyantšha?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

15. Ge e le gore ke aowa o emišitše neng go nyantšha ngwana wa gago?

	Khoutu	Maraka ka X
Kgwedi ya 0-1	1	
Kgwedi ya 1-3	2	
Kgwedi ya 3-5	3	
Kgwedi ya 6	4	

16. Ke lebaka le fe le le dirilego gore o emiše go nyantšha?

	Khoutu	Maraka ka X
Maemo a maphelo	1	
Ngwana o gana letswele	2	

O boela sekolong	3	
O boela mošomong	4	
A mangwe, Hlaloša	5	

17. Na ofa ngwana dijo tše dingwe, goba seela go swana le juice ka ntle maswi a letswele?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

18. Naa ofa ngwana wago eng?

	Khoutu	Maraka ka X
Meetse	1	
Motepa	2	
Maswi	3	
Tše dingwe, hlaloša	4	

19. Ke mabaka afe a a dirilego gore o ješe ngwana dijo tše dingwe goba seela ka ntle le letswele?

	Khoutu	Maraka ka X
Maswi e be a sa tšwe	1	
Bolwetši bja mmago ngwana	2	
Setšo goba tumelo	3	
Maswi a letswele a be a sa lakane	4	
Bolwetši bja ngwana	5	

20. Ke mang a go eleditšego gofa ngwana dijo tše dingwe goba seela ntle letswele?

	Khoutu	Maraka ka X
Papa wa ngwana	1	
Batswadi / Bommatswale	2	
Meloko	3	
Mošomi wa maphelo	4	
Kgetho ya gago	5	
Bakgotse	6	
Bangwe, hlaloša	7	

21. Ke mang yo a go hlohleleditšego go ješa ngwana dijo?

	Khoutu	Maraka ka X
Molekani	1	
Kgetho ya gago	2	

Mmatswale	3	
Bašomi ba maphelo	4	
Kgetho ya gago	5	

22. Ge o imile e be o eya sekaleng sa boimana?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

23. Gona le yo a kilego a bolela ka go nyantšha?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

24. Naa o kile wa kwa go nyantšha ngwana?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

25. Naa o tseba eng ka go nyantšha letswele feela

.....

O seke wa araba kholomo ya ka tlase

	Khoutu	Maraka ka X
Ke yona	1	
A se yona	2	

26. Ka nako ya gago ya sekala sa boimana gona le yo a kilego a bolela ka bohlokwa bja go nyantšha?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

27. Naa moshomi wa tša maphelo o kile a romela ba thekgo ya setšhaba goba bomme ba ba tswilego?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

Karalo C: Tsebo ya go nyantšha

28. Ge ele gore ngwana o nyanya maswi a letswele, Naa ke nako efe yeo o a mo rutago dijo tše bothata?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

O seke wa araba kholomo ya ka tlase

	Khoutu	Maraka ka X
Ke yona	1	
A se yona	2	

29. Ge ele gore ngwana o nyanya maswi a letswele feela, ke eng seo se fiwago ngwana go o etšwa go yena?

.....

.....

.....

O seke wa araba kholomo ya ka tlase

	Khoutu	Maraka ka X
Ke yona	1	
A se yona	2	

30. Naa o kile wa rutwa ka go gamela maswi a letswele?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

31. Ge ele ee, o rutilwe ke mang, hlaloša?

.....

.....

.....

Naa o kile wa rutwa ka dilo tše di latelago?

32. Bohlokwa bjago nyantšha?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

33. Bohlokwa bja mo ngwana a beiwago gona?

	Khoutu	Maraka ka X
Ee	1	

Aowa	2	
------	---	--

34. Peakanyo le Kgokaro?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

35. Mohola wa go ješa nako?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

36. Naa bomma b aka dira eng gore ba tswelētše maswi a mantši go ban aba bona?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

37. Mohola wa go fa ngwana maswi a letswele fela?

	Khoutu	Maraka ka X
Ee	1	
Aowa	2	

APPENDIX 12

PARTICIPANT'S TRANSCRIPT

Researcher: Can you share with us the implementation of EBF in this institution?

Participant: We render this service of EBF from Monday until Friday, but if we have time, we also give health education during the weekends, as time is our main problem.

Researcher: Can I interrupt you, what do you mean when you say you EBF from Monday to Friday?

Participant: I mean we give health education about breastfeeding to the mothers who brought their babies for immunization and we only do immunization Monday to Friday and during ANC. We do not give immunization on weekends because vaccines are very expensive. So, we don't do ANC services on weekends, we give them information during the week.

Ok let me put it in this way, we started to give health education to the pregnant women about EBF then after birth we encourage them to start with breastfeeding and do EBF for six months and continue to two years and beyond. You know what, we give this information during the week.

Researcher: When you say, you give health education during ANC, what are you telling them?

Participant: Jaah! We teach them during ANC, we teach them that once they gave birth, they must start with breastfeeding, we teach during ANC and during immunization.

Researcher: How do they respond?

Participant: Some accept our advice some are not. Some comply and do EBF; some perceive that is not practical.

Researcher: What makes them not to comply with EBF?

Participant: The challenges are with those teenager mothers, those who are going back to school or work, they left their babies with their grandmothers and their grannies are the ones who refuse to use breast milk because we encourage them to express breast milk. Even myself when I am still a child bearing age, my mother in law refuse me to use express breast milk because she believes that breast milk is no longer fresh, because even when I came back from shopping, she used to encourage me to express the foremilk because they believe is no longer fresh is sour. The influence from elders, I mean in-laws.

Researcher: Which means there is a myth about expressed breast milk?

Participant: Yes, there is a myth because they thought that expressed breast milk is contaminated and, in our culture, everything coming from the human body is contaminated. Because our grannies do not have knowledge. They thought expressed breast milk is dirty and it can cause diseases like diarrhoea.

Researcher: You mentioned that only school going mothers are the ones who do not comply, what about working mothers?

Participant: *Ok those who are not school going or working, most of them they don't have problems they comply but not all of them. We are having mothers who did EBF for six months, that is why am saying, some are complying, but some are not.*

Researcher: **For those who comply what do they say about the benefits of EBF?**

Participant: *They say their children are growing well. They don't use their grant money to buy formula as it is very expensive, they use their money to buy something valuable in their households. They also said their babies are free from diseases like diarrhoea and pneumonia. They emphasize that they save their money because they don't buy formula, sterilizers and bottles. We also discourage bottle feeding for those who are complying with EBF. We encourage expressed breast milk and cup feeding.*

Researcher: **Are they complying on using cup to feed their babies?**

Participant: *It is difficult for them to comply those who are using formula even those who are using expressed breast milk some are still using bottles, is not easy.*

Researcher: **Concerning EBF itself, when we read from the literature, studies show that people give soft porridge and water at birth or within one month. How is it in your situation, do they practice EBF?**

Participant: *To those who are practising EBF, they are complying but those women who are between the age of 40 and above, who are still giving birth they still have perception that they must comply with their culture to give herbal soft porridge (muthuso). For young mothers in laws or parents have an influence to encourage them to go to the traditional healers (Vhomaine) to get protection, they usually give them herbs to mix with soft porridge, that's our culture. But through my experience, majority of lactating mothers want to comply with EBF for six months but the influence from the family is the challenge.*

Researcher: **Is it a common practice to give cultural soft porridge to the new born babies?**

Participant: *No some are Christian they don't practice cultural rituals but some they give anointing water, so it is not common practice. But we are trying to teach them that foremilk is water but because is their religious believe is not easy. But we teach them the functions of foremilk, middle milk and the last milk. Fore milk is to quench thirst; middle milk contains all nutrients to prevent diseases and the last milk is to feed the baby.*

Researcher: **For those who are doing EBF well, do sometimes encourage those who are reluctant, how do you do it?**

Participant: *Yes, every morning we give ourselves 10 to 15 minutes to talk about breastfeeding and then we give those who are doing well on EBF to encourage others, those who are reluctant, they show them their healthy baby and we see that they are admiring them.*

Researcher: **When you say you are giving health education every day, which method are you using? Are you giving lecture or what?**

Participant: *No, we don't give lecture, we use participatory method. Participatory is very relevant method because that's where mothers share their experience with us.*

Researcher: **Do you involve them?**

Participant: *Yes, we involve them.*

Researcher: Since we want to develop a programme to improve adoption of EBF strategies, what aspects do you think we can consider or include that can motivate grannies.

Participant: *May be by doing outreach and door-to-door health education, I mean to involve everyone in the family like fathers, grannies and the whole family. We need to come up with something that can improve existing strategies and that everyone will be motivated.*

Jaa! What am suggesting is on-going education, door-to-door health education can assist and lactating mothers can be motivated by rewards, like to have an event to encourage lactating mothers to do EBF and we reward those who are doing well on EBF.

Researcher: When you compare health education in the clinic or door-to-door, which one is more effective?

Participant: *I think both are working but door-to-door is more effective because when visiting their house hold monthly, we find the grannies and they are the ones who are responsible and influence the mothers, so we give them information on the importance of EBF.*

Researcher: When you look at the husband or fathers are they accepting exclusive breastfeeding?

Participant: *Fathers are encouraging the mothers to breastfeed because formula is very expensive for them, some use grant money to buy formula. Nowadays young parents are sharing grant money so fathers want that money too, they encourage mothers to breastfeed.*

Researcher: Anything to tell us which you did not touch?

Participant: *I think I have said it all, but all I can say is that let us encourage lactating mothers to practice EBF to save babies lives because mothers are still being influenced by the in laws to give soft porridge at birth leading them to die. Let us do on-going health education about the danger of bottle feeding to everyone in the society; infants are still dying due to diarrhoea because of poor feeding practice.*

Researcher: There is one point that I didn't do follow-up before the issue of incentives, you talked about support group or lactating mothers coming together, what are you talking about?

Participant: *No, I was talking about encouraging those who are doing breastfeeding properly to encourage others including pregnant women.*

Researcher: When can that work, at birth or during ANC?

Participant: *During ANC, to let pregnant women and lactating mothers encourage each other. Those who are still pregnant women and lactating mothers come together and encourage each other (support). During immunization, we encourage the mothers who are doing well on breastfeeding to show them their healthy babies to motivate them.*

Researcher: Another issue that you didn't touch is how you do initiate breastfeeding?

Participant: *We initiate breastfeeding immediately after delivery we encourage the mothers to start breastfeeding within an hour especially when there is no abnormalities within 30 minutes post-delivery we encourage to initiate.*

Researcher: Thank you for sharing with us.

APPENDIX 13

QUALITATIVE DATA CERTIFICATE

Qualitative Data Analysis

Ms AG Mudau

PhD Public Health

THIS IS TO CERTIFY THAT:

Professor Tebogo M. Mothiba has co-coded the following qualitative data:

Unstructured one-to-one interviews

for the study:

**AN INTERVENTION PROGRAMME TO PROMOTE EXCLUSIVE BREASTFEEDING STRATEGIES IN
LIMPOPO PROVINCE, SOUTH AFRICA**

I declare that the candidate and I have reached consensus on the major themes reflected by the data. I further declare that adequate data saturation was achieved as evidenced by repeating themes.

Prof TM Mothiba



June 2019

APPENDIX 14

WORKSHOP PROGRAMME



University of Venda

BREASTFEEDING INTERVENTION DEVELOPMENT WORKSHOP

Venue: Department of Health Regional Office Conference Hall

Date: 18 July 2019

Time: 09:00- 14:00

PROGRAMME DIRECTOR: Dr MABUNDA

09:00 -09:05	Opening	All
09: 05 09:10	Attendance register circulating	All
09:10 -09:20	Welcome and Introductions	Mrs Ngambi
09:20 -09:30	Purpose of the Workshop	Dr Mabunda
09:30 -10:00	Presentation of research findings	Mrs Mudau
10:00 -10:15	Questions and Discussions	All
10:15 -10:30	TEA	
10:30 -11:30	Working in Groups	All
11:30 -13:00	Group presentations and Discussions	All
13:00- 13:30	LUNCH	
13:30-13:50	Way forward	
13:50-14:00	Vote of thanks & Closure	

APPENDIX 15

WORKSHOP ATTENDANCE REGISTER



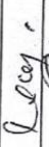


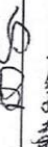



BREASTFEEDING INTERVENTION PROGRAMME DEVELOPMENT

ATTENDANCE REGISTER

VENUE: VHEMBE DISTRICT OFFICE BOARD ROOM

DATE: 18 JULY 2019

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12. Kheubinda Mokoena	Quality Assurance	Vhembe DO	011302801	komokoena@gmail.com	<i>[Signature]</i>

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BREASTFEEDING INTERVENTION PROGRAMME DEVELOPMENT

ATTENDANCE REGISTER

VENUE: VHEMBE DISTRICT OFFICE BOARD ROOM

DATE: 18 JULY 2019

GROUP 2

SURNAME & INITIALS	DISIGNATION	SEX	AGE	HIGHEST QUALIFICATION	INSTITUTION	SIGNATURE
1. Masunkusini N.V	Sub District Manager	F	57	B CUR	Dept of Health Collins Chabane	Mugany-
2. Nqobale T.M	PHC Coordinator	F	61	B CUR	SD PHC	Nqobale
3. Nyallongu H.S	PHU Coordinator	F	49	GRADE 12 AND SANC certificate.	Red cross	Hsyolungu
4. Luvhengo N.C	Deputy District-Phis	F	58	HOND BLS (SAFARI)	PIT	Luvhengo
5. Manganyi J	AIB coordinator	F	50	B Cur	DOH HAS	Manganyi
6. Ramahlala R.C	AID PHC	M	47	MISC Dev Planning	DOH bishof	Ramahlala
7. Manganye B.S	Lecturer	M	38	Bcur, MPhil, MEd, MEd, MEd	University of Venda	Manganye
8.						
9.						
10.						



BREASTFEEDING INTERVENTION PROGRAMME DEVELOPMENT
ATTENDANCE REGISTER

VENUE: VHEMBE DISTRICT OFFICE BOARD ROOM

DATE: 18 JULY 2019

GROUP ONE

SURNAME & INITIALS	DISIGNATION	SEX	AGE	HIGHEST QUALIFICATION	INSTITUTION	SIGNATURE
1. T. Sanwenani A	HSR Sub Coordinator	F	49	Degree in ED & Admin	Potchefstroom University	[Signature]
2. Boleji-Nthumani PF	AB Unit	F	50	Master in Theology	Faith Bible	[Signature]
3. SINDISI M.I.P	AID HTS	F	53	B.A Degree in Education & Administration	UNISA	[Signature]
4. Phumani A.K	A-Sub-division Manager HAS sub-division	F	59	BA Degree in Admin	UNISA	[Signature]
5. Muroha MF	CO-ordinator	F	57	BA Honours Degree	UNISA	[Signature]
6.						
7.						
8.						
9.						
10.						

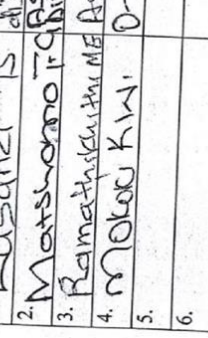





BREASTFEEDING INTERVENTION PROGRAMME DEVELOPMENT
ATTENDANCE REGISTER

VENUE: VHEMBE DISTRICT OFFICE BOARD ROOM

DATE: 18 JULY 2019

GROUP 3



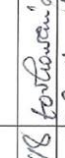


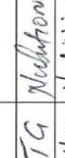
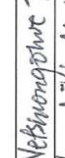




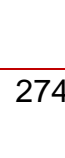
SURNAME & INITIALS	DISGINATION	SEX	AGE	HIGHEST QUALIFICATION	INSTITUTION	SIGNATURE
1. Lusunzi TS	HAS sub- city district coordinator	F	46	Honours in psychology	University of Venda	
2. Matshomo T.G	Assistant Director PMTC	F	55	Descriptive BA CHY	University of Venda	
3. Ramathakurathar ME	Assistant director	F	60	M.P.M	University of Venda	
4. MOKOBI K.W.	DM	F	47	B.TUR.	POCMA	
5.						
6.						
7.						
8.						
9.						
10.						



BREASTFEEDING PROGRAMME VALIDATION
ATTENDANCE REGISTER

VENUE: VHEMBE DISTRICT OFFICE BOARD ROOM

DATE: 14 JANUARY 2020

SURNAME & INITIALS	DISIGNATION	INSTITUTION	CONTACT NO	EMAIL ADDRESS	SIGNATURE
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3. Nugezi A.M	Nutritionist	Health	060 708 0204	Munqani.mercy@gmail.com	
4. Melope T.A	DIETITIAN	HEALTH	07 1916 9992	aleciot nel@johnson	
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6. Ngambi D	Assistant manager	Health	08445 82122	elovisingambi@gmail.com	
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11. Mafatsubano	Clinical nurse	Health	079 0304849	fontenain.goo@gmail.com	
12. Mafatsubano	Clinical nurse	Health	079 0304849	fontenain.goo@gmail.com	

APPENDIX 16A

TEMPLATE OF A CHECKLIST QUESTIONNAIRE FOR VALIDATION OF DEVELOPED PROGRAMME

Validation questions	Yes	No	
1. Is an intervention programme goal clear?			
2. How simple is the programme-is it easy to implement?			
3. How general is the programme, is there, or might there be similarity between the programme and practice variable?			
4. Is the programme easily accessible?			
5. How important is the programme?			

APPENDIX 16B

MINI-CHECKLIST INTENDED TO EVALUATE THE QUALITY OF THE DEVELOPED PROGRAMME

1. The programme had been written in a generally comprehensive manner					
Yes		To some extent		No	
2. The programme target audiences and scope of application were specified.					
Yes		To some extent		No	
3. The search for evidence was systematic and the criterion used to select the evidence were described.					
Yes		To some extent		No	
4. The programme recommendations are unambiguous and the evidence they are based on is clearly presented.					
Yes		To some extent		No	
5. Overall quality of the programme based on above score.					
POOR	1	GOOD	2	VERY GOOD	3
6. Would you recommend the programme to be used?					
Yes		Yes, with some modification		No	

APPENDIX 17

HEALTH TALKS

HEALTH TALK 1:

Topic: Benefits of EBF

Target Group: Lactating mothers, family and community members

Duration: 30 minutes

Method of giving health education: Group discussion

Place: During home visit and door to door campaigns

Teaching aid:



Breastfeeding Benefits

For Mom

-  Breastfeeding burns as many as **500 extra calories each day**, which may make it easier to lose the weight you gained during pregnancy.
-  Women who breastfeed longer have **lower rates of type 2 diabetes, high blood pressure, and heart disease.**
-  Women who breastfeed have **lower rates of breast cancer and ovarian cancer.**
-  Breastfeeding triggers the release of **oxytocin** that causes the **uterus to contract** and may **decrease** the amount of **bleeding you have after giving birth.**

For Baby

-  Breast milk has the **right amount of fat, sugar, water, protein, and minerals** needed for a baby's growth and development.
-  Breast milk is **easier to digest than formula**, and breastfed babies have less gas, fewer feeding problems, and less constipation.
-  Breast milk contains **antibodies that protect infants** from certain illnesses, such as ear infections, diarrhea, respiratory illnesses, and allergies.
-  Breastfed infants have a **lower risk of sudden infant death syndrome.**
-  If your baby is born preterm, **breast milk can help reduce the risk of many of the short-term and long-term health problems.**

For additional information and resources, go to www.acog.org/breastfeeding



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS



Aim:

- To equip the mothers, families and communities with accurate information regarding the benefits of EBF so that they can make informed decisions regarding the best way to feed their infants.

Objectives:

At the end of lesson lactating mothers should be able to:

Exclusively breastfeed their infants for six months, breastfeed their babies for two years and beyond.

Pre-assessment

- What is EBF?
- What are the benefits of EBF?

Introduction

EBF is giving the infant no other food or drink, not even water apart from breast milk.

Content

WHY SHOULD I GIVE MY BABY ONLY BREAST MILK DURING THE FIRST SIX MONTHS OF LIFE?

Because:

- Your baby only needs breast milk and nothing else during the first six months of life, this is called EBF
- Breast milk contains protein, vitamins and fats all your baby needs for the first six months of life. Breast milk is enough for your baby.
- Baby's intestine is not yet ready for any other food before six months
- Your babies may get diarrhea, constipation, infections and allergies if other foods including water are given before six months.
- Breast milk contains enough water to quench your baby's thirst during the first months of life, even in hot weather.
- Breast milk contains special properties that keep your baby healthy.
- Breastfeeding reduces the chance of your baby getting pneumonia and diarrhea.
- Giving other foods before six months will cause you to produce less breast milk and your baby will not get *all* the nutrients they need to grow and develop well.

HOW SHOULD I BENEFIT FROM EBF AS A LACTATING MOTHER?

You benefit as a lactating mother because:

- Breastfeeding can assist you to lose weight after giving birth.
- EBF can assist you to space your children, to plan your family because it acts as a family planning
- It reduces chances of getting diseases such as breast and ovarian cancer, blood pressure and diabetes mellitus.
- It decreases the amount of bleeding you have after giving birth.

Post-assessment

How should you benefit from EBF as a lactating mother?

Material: Information leaflet

Conclusion

EBF is one of the most significant ways to improve infant survival rate. Breast milk is also a critical source of energy and nutrients during illness and reduces mortality among children who are malnourished. Children who were breastfed as babies are less likely to be overweight and obese. They perform better on intelligence tests and have good school performance.

HEALTH TALK 2:

Topic: How to express breast milk?

Target Group: Lactating mothers and pregnant women

Duration: 20 minutes

Teaching Method: Demonstration

Place: Health care facilities during ANC, postnatal care and well-baby clinic

Teaching aid:



Aim:

- To equip lactating mothers with knowledge and skills on how to express breast milk.

Objectives

At the end of the lesson lactating mothers should be able to:

- To demonstrate how to hand EBM
- To explain how to store EBM safely

Pre-assessment

- What is EBM?
- How to express breast milk?

Introduction:

Expressing milk means squeezing milk out of your breast so you can store it and feed it to your baby later.

Content

WHY SHOULD I EXPRESS BREAST MILK?

You might want to express milk if:

- You should be away from your baby
- The baby in special care or
- You are going back to work/school
- Your breasts feel uncomfortably full

HOW TO EXPRESS BREAST MILK?

- Wash your hands well.
- Sit or stand comfortably near your baby or near a picture of your baby.
- Massage your breast gently for a minute or two.
- Hold a sterilised container near your breast, under nipple and areola.
- Your thumb should be on your breast, above the nipple and areola with your first finger on the breast below the nipple and areola, opposite the thumb. You can support the breast with the other fingers.
- Press your thumb and finger gently towards the chest wall and then presses the thumb and first finger together, compressing the milk duct between them and then releases. Then repeats the press and release action when the milk flow slows, move your thumb and finger around the edge of the areola to another section of the breast and repeats the process.
- As flow ceases on the breast switch to the other breast and repeat the process.
- Be careful not to pull or pinch the breast or nipple, which may cause bruising.
- Collect milk in container and feed to infant via cup or store appropriately.

Post- Assessment

- Demonstrate how to express breast milk

Material: Information leaflet

Conclusion

To enable women to exclusively breastfeed their infants for six months, it is crucial they can hand express especially if they to be separated from their infants such as in the case of returning to work or school.

HEALTH TALK 3:

Topic: How to store breast milk?

Target Group: Lactating mothers and pregnant women

Duration: 20 minutes

Teaching Method: Demonstration

Place: Health care facilities during ANC, postnatal care and well-baby clinic

Teaching aid:

Breast milk storage recommendation

Temperature	Duration	Recommendations
Room temperature	Up to 6-8 hours	Choose the coolest place in the house at a given time.
Refrigerator	Up to 6 days	Place milk directly in a refrigerator if available, especially during warm and hot weather Note: the back of the refrigerator is the coolest
Ice box freezer in fridge	3 months	Use EBM as soon as possible, and if not used within 2 days, preferable freeze the milk. Defrost breast milk in a refrigerator or at room temperature over 12 hours. Use within 6-8 hours after defrosting.
Deep freezer (-18°C)	3-6 months	Defrost breast milk in a refrigerator, or defrost at room temperature over 12 hours. Use within 5-8 hours after defrosting

Aim:

- To equip lactating mothers and families with knowledge and skills on how to store breast milk.

Pre-assessment

- What is EBM?
- How to store breast milk?

Introduction:

To enable women to EBF their infants for six months, it is crucial they can hand express and know how to store breast milk safely, especially if they should be separated from their infants such as in the case of returning to work or study. It is important that proper procedure is adhered to prevent contamination of EBM.

Content

HOW CAN I MANAGE EBM AT HOME?

- Label jar or bags with date and volume of breast milk expressed
- Place milk in ice box in fridge or in freezer
- Use EBM labelled with oldest date first.
- Defrost only what is required
- Defrost EBM by thawing slowly in a refrigerator and use within 24 hours
- It can also be defrosted at room temperature by standing in a jug of warm water and use within an hour as it is warm

- Do not boil EBM, defrost or heat using the microwave oven as it will destroy some of the properties
- Breast milk will separate as it stands – mix gently before use
- No need to heat breast milk prior to offering it to the infant
- Do not refreeze previously frozen breast milk

WHAT CAN I USE TO STORE EBM?

- A clean glass jar or hard plastic jar with lid
- Sterile ice cube tray (where feasible)- measure volume per cube to ensure correct amount is defrosted. Cover the ice cube tray to keep the milk clean.
- Special breast milk freezer bags

HOW LONG TO STORE EXPRESSED BREAST MILK?

Temperature	Duration
Room temperature	Up to 8 hours
Fridge	Up to 6 days
Ice box freezer in fridge	3 months
Deep freezer (-18)	3-6 months

Post- assessment

- How to store EBM?
- How long can you keep breast milk at a room temperature?
- Can breast milk be refrigerated after warming?
- How long can breast milk sit out before being refrigerated?

Conclusion

Before expressing or handling breast milk, wash your hands with soap and water. Then store the expressed milk in a clean, capped glass or hard plastic. You can also use special plastic bags designed for milk collection and storage. However, breast milk storage bags might tear, leak and become contaminated more easily than hard-sided containers. For extra protection, place the bags in a hard plastic food storage container with a tightly sealed lid. Don't store breast milk in disposable bottle liners or plastic bags designed for general household use.

HEALTH TALK 4

Topic: Use a cup to feed the baby breast milk

Target Group: Lactating mothers, family and community members

Duration: 20 minutes

Place: Health care facilities during ANC, Immunization, post-delivery on discharge, in the community during home visit and outreach programme

Method of giving health education: Demonstration/group discussion

Teaching Aid:



Aim:

- To empower lactating mothers and society with knowledge and skill on how to use cup to feed the infants breast milk to promote EBF

Objective:

At the end of lesson lactating mothers should be able to:

- Demonstrate and assist lactating mothers how to cup feed a baby.

Introduction

In the case of a mother or an infant not being able to feed from a breast, cup feeding expressed breast milk is the preferred alternative method to promote EBF.

Content

WHY SHOULD I USE CUP OVER BOTTLE TO FEED MY WITH EBM?

- Cup feeding does not interfere with infant learning to suckle from the breast.
- Cups are easy to clean and thus less opportunity for bacteria to develop.
- Cup feeding necessitates holding an infant, providing vital interaction and stimulation.
- Cup feeding is easier than spoon or syringe feeding; baby will receive required volume of milk faster.
- It allows the baby to use his or her tongue and to learn taste.
- It encourages coordinated breathing-suck-swallow
- It allows the infant to control the amount and the rate of feeding.

HOW TO USE CUP TO FEED MY BABY WITH EBM?

- Use required volume of EBM.
- Hold your infant sitting upright or semi-upright on your lap in a position that is comfortable for both you and infant.
- Support the infant's back, head and neck.
- You can wrap the baby in a light baby blanket, to secure infant's arms to offer some stability, and prevent infant hands from knocking the cup.
- Hold the cup, so that the rim rests on the infant's lower lip and the corners of his mouth.
- Avoid applying pressure on the infant's lower lip.
- Tip the cup gently so that the milk just reaches the infant's lips.
- The infant should be alert and open his/her mouth and eyes.
- A premature, or low birth weight infant, will start to take milk into his mouth with the tongue and a full term or older infant sucks the milk and may spill some of it.
- Follow infant's pace- DO NOT POUR milk into infant's mouth, hold the cup and let him drink it himself.
- When infant has had enough, he will close his mouth and not take any more.

Material: Information leaflet

Post-assessment

Demonstrate how to use a cup to feed the baby

What are the benefits of cup feeding over bottle feeding?

Conclusion

Always use cup to feed your baby breast milk to avoid using dummies and pacifiers.

HEALTH TALK 5

Topic: Myths about breast milk

Target Group: Lactating mothers, family and community members

Duration: 20 minutes

Place: In the community during home visit and door to door campaign

Method of giving health education: Participatory

Aim:

- Dispel the myths around breastfeeding and to advice lactating mothers' families and communities how to overcome them.

Objective:

At the end of this lesson lactating mothers should be able to:

- To identify myths around breastfeeding and confirm facts.

Pre-assessment:

What are the myths around breastfeeding?

Introduction:

Myth is a traditional story, especially one concerning the early history of a people or explaining a natural or social phenomenon and typically involving supernatural beings or events. Is a widely held but false belief or idea. The main characters in myths are usually gods, demigods or supernatural humans.

Content

MYTHS	FACTS
My mother in law doesn't want to feed my baby with EBM because she believes that is dirty and contaminated.	Expressed breast milk is not dirty or contaminated If it is stored safely. EBM can be stored for six months and still be fresh.
Breast milk was not enough for my baby; I gave her soft porridge because she was crying by hunger.	The nutrient density of breast milk will satisfy the baby. The amount may appear small, but it is enough to fill the tiny capacity of the new-born stomach
My mother always forces me to express foremilk every time when I came back from work or shopping because she believes that foremilk is contaminated	Foremilk is not contaminated it contains enough water to quench your baby's thirst during the first six months of life even in hot weather
I stop breastfeeding early because I was sick	Even if you are sick you can continue with breastfeeding, remember to always take your treatment, make sure you get rest, eat and drink well. This makes breastfeeding safe.
Should I take any medication when am breastfeeding	It is important to tell your doctor that you are breastfeeding and to read the instructions with any

	medications as you buy over the counter. You should also tell the baby's doctor about any medication that your taking.
Should I stop EBF when I go back to school or work?	You can continue with EBF, you can use during the day and breastfeed your baby before and after work. You may be able to go home and breastfeed during break. Ask your family member to bring your baby to you or to express breast milk and take it home.
I stopped breastfeeding because my nipples were painful.	You can experience discomfort in the few days after giving birth when they are learning to breastfeed. You can continue with EBF but with the right support with positioning the baby is correctly attached.

HOW DOES BREAST MILK LOOK LIKE?



Materials: Information leaflet

Post assessment

How does breast milk look like?

Conclusion

The milk the infant receives at the beginning of a breastfeed is called the foremilk, which is high in volume but low in fat; as the feeding progress, the fat content of the milk rises steadily as the volume decreases. The milk near the end of the feeding is low in volume but high in fat and is called the hind milk.

HEALTH TALK 6:

Topic: EBF and appropriate time to introduce solid food at six months.

Target Group: Lactating mothers, family and community members

Duration: 30 minutes

Place: Health care facilities and in the community during outreach programme

Method of giving health education: Participatory/ Group discussion

Aim:

- To support lactating mothers to EBF their infants for the first six months of their life.

Objective

At the end of lesson lactating mothers should be able to:

- To acquire knowledge on when to start introducing complementary food

Pre-assessment:

- When to introduce solid food to an infant?
- How to introduce solid food?

Content:

WHEN SHOULD I START TO INTRODUCE COMPLEMENTARY FOOD TO MY INFANT?

Feeding recommendation for infant up to 6 months:

- Immediately after birth, put your baby in skin to skin contact with you.
- Breastfeed as often as the child wants, day and night.
- Feed young infants on demand.
- Do not give other foods or fluids, not even water,

WHY SHOULD I AVOID GIVING MY BABY SOFT PORRIDGE OR OTHER FOODS BEFORE SIX MONTHS?

- because baby's tummy or gut is not yet ready for any other foods, water or other liquids before six months

Feeding recommendation 6 months up to 12 months:

- Continue to breastfeed as often as the child want
- Start giving 2-3 teaspoon of soft porridge, and begin to introduce vegetables and fruit

- Gradually increase the amount and frequency of feeds. Children between 6-8 months should have two meals a day, by 12 months this should have increased to 5 meals per day.
- Give a variety of locally available food. Examples include egg (yolk), beans, meat, fish, chicken and Mopani worms.
- For children who are not growing well, mix margarine, fat or oil with porridge
- Fruit juices, tea and sugary drinks should be avoided before 9 months of age.

Material: Information leaflet

Post -assessment

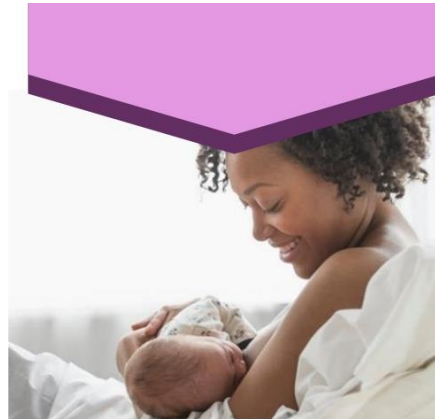
- When to start giving our infants solid food?
- Which food are appropriate when introducing solid food?

Conclusion:

Most of lactating mothers are not aware of appropriate time to start introducing solid food to their babies and appropriate food, CHWs are responsible to give community accurate information on when and how to start with supplements food.

APPENDIX 18

INFORMATION LEAFLET



**EDUCATE, MOTIVATE AND SUPPORT
LACTATING MOTHERS.
MAKE EBF POSSIBLE**

Breastfeeding Benefits



1

Because:

- Your baby only needs breastmilk and nothing else during the first six months of life, this is called EBF
- Breastmilk contains protein, vitamins and fats all your baby needs for the first six months of life. Breastmilk is enough for your baby.
- Baby's intestine is not yet ready for any other food before six months.
- Your babies may get diarrhoea, constipation, infections and allergies if other foods including water are given before six months.
- Breastmilk contains enough water to quench your baby's thirst during the first months of life, even in hot weather.
- Breastmilk contains special properties that keep your baby healthy.
- Breastfeeding reduces the chance of your baby getting pneumonia and diarrhoea.
- Giving other foods before six months will cause you to produce less breastmilk and your baby will not get all the nutrients they need to grow and develop well.

2

You benefit as a lactating mother because:

- Breastfeeding can assist you to lose weight after giving birth.
- EBF can assist you to space your children, to plan your family because it acts as a family planning
- It reduces chances of getting diseases such as breast and ovarian cancer, blood pressure and diabetes mellitus.
- It decreases the amount of bleeding you have after giving birth.

WHY SHOULD I EXPRESS BREASTMILK?

You might want to express milk if:

- You should be away from your baby
- The baby in special care or
- You are going back to work/school
- Your breast feels uncomfortably full

3

HOW TO EXPRESS BREASTMILK?



- Wash your hands well.
- Sit or stand comfortably near your baby or near a picture of your baby.
- Massage your breast gently for a minute or two.
- Hold a sterilised container near your breast, under nipple and areola.
- Your thumb should be on your breast, above the nipple and areola with your first finger on the breast below the nipple and areola, opposite the thumb. You can support the breast with the other fingers.
- Press your thumb and finger gently towards the chest wall and then presses the thumb and first finger together, compressing the milk duct between them and then releases. Then repeats the press and release action when the milk flow slows, move your thumb and finger around the edge of the areola to another section of the breast and repeats the process.
- As flow ceases on the breast switch to the other breast and repeat the process.
- Be careful not to pull or pinch the breast or nipple, which may cause bruising.
- Collect milk in container and feed to infant via cup or store appropriately.

4

HOW CAN I MANAGE EBM AT HOME?

- Label jar or bags with date and volume of breastmilk expressed
- Place milk in ice box in fridge or in freezer
- Use EBM labelled with oldest date first.
- Defrost only what is required
- Defrost EBM by thawing slowly in a refrigerator and use within 24 hours
- It can also be defrosted at room temperature by standing in a jug of warm water and use within an hour as it is warm
- Do not boil EBM, defrost or heat using the microwave oven as it will destroy some of the properties
- Breastmilk will separate as it stands – mix gently before use
- No need to heat breastmilk prior to offering it to the infant
- Do not refreeze previously frozen breastmilk

WHAT CAN I USE TO STORE EBM?

- A clean glass jar or hard plastic jar with lid
- Sterile ice cube tray (where feasible)- measure volume per cube to ensure correct amount is defrosted. Cover the ice cube tray to keep the milk clean.
- Special breastmilk freezer bags

5

FOR HOW LONG SHOULD I STORE EXPRESSED BREASTMILK?

Temperature	Duration
Room temperature	Up to 8 hours
Fridge	Up to 6 days
Ice box freezer in fridge	3 months
Deep freezer (-18)	3-6 months

WHY SHOULD I USE CUP OVER BOTTLE TO FEED MY WITH EBM?

Cup feeding does not interfere with infant learning to suckle from the breast.

Cups are easy to clean and thus less opportunity for bacteria to develop.

Cup feeding necessitates holding an infant, providing vital interaction and stimulation.

Cup feeding is easier than spoon feeding; baby will receive required volume of milk faster.

It allows the baby to use his or her tongue and to learn taste.

It encourages swallowing

It allows the infant to control the amount and the rate of feeding.

6

HOW TO USE CUP TO FEED MY BABY WITH EBM?

Use required volume of EBM.

Hold your infant sitting upright or semi-upright on your lap in a position that is comfortable for both you and infant.

Support the infant's back, head and neck.

You can wrap the baby in a light baby blanket, to secure infant's arms to offer some stability, and prevent infant hands from knocking the cup.

Hold the cup, so that the rim rests on the infant's lower lip and the corners of his mouth.

Avoid applying pressure on the infant's lower lip.

Tip the cup gently so that the milk just reaches the infant's lips.

The infant should be alert and open his/her mouth and eyes.

A premature, or low birth weight infant, will start to take milk into his mouth with the tongue and a full term or older infant sucks the milk and may spill some of it.

Follow infant's pace- DO NOT POUR milk into infant's mouth, hold the cup and let him drink it himself.

When infant has had enough, he will close his mouth and not take any more



7

WHEN SHOULD I START TO INTRODUCE COMPLEMENTARY FOOD TO MY INFANT?

Feeding recommendation for infant up to 6 months:

Immediately after birth, put your baby in skin to skin contact with you.

Breastfeed as often as the child wants, day and night.

Feed young infants on demand.

Do not give other foods or fluids, not even water,



WHY SHOULD I AVOID GIVING MY BABY SOFT PORRIDGE OR OTHER FOODS BEFORE SIX MONTHS?

because baby's tummy or gut is not yet ready for any other foods, water or other liquids before six months

Feeding recommendation 6 months up to 12 months:

Continue to breastfeed as often as the child want

Start giving 2-3 teaspoon of soft porridge, and begin to introduce vegetables and fruit

Gradually increase the amount and frequency of feeds. Children between 6-8 months should have two meals a day, by 12 months this should have increased to 5 meals per day.

Give a variety of locally available food. Examples include egg (yolk), beans, meat, fish, chicken and Mopani worms.

For children who are not growing well, mix margarine, fat or oil with porridge

Fruit juices, tea and sugary drinks should be avoided before 9 months of age.

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The & Myths about Breastfeeding	
MYTHS	FACTS
My mother in law doesn't want to feed my baby with EBM because she believes that is dirty and contaminated.	EBM is not dirty or contaminated If it is stored safely. EBM can be stored for six months and still be fresh.
Breastmilk was not enough for my baby; I gave her soft porridge because she was crying by hunger.	The nutrient density of breastmilk will satisfy the baby. The amount may appear small, but it is enough to fill the tiny capacity of the new-born stomach
My mother always force me to express foremilk every time when I came back from work or shopping because she believes that foremilk is contaminated	Foremilk is not contaminated it contains enough water to quench your baby's thirst during the first six months of life even in hot weather
I stop breastfeeding early because I was sick	Even if you are sick you can continue with breastfeeding, remember to always take your treatment, make sure you get rest, eat and drink well. This makes breastfeeding safe.
Should I take any medication when am breastfeeding	It is important to tell your doctor that you are breastfeeding and to read the instructions with any medications as you buy over the counter. You should also tell the baby's doctor about any medication that your taking.
Should I stop EBF when I go back to school or work?	You can continue with EBF, you can use during the day and breastfeed your baby before and after work. You may be able to go home and breastfeed during break. Ask your family member to bring your baby to you or to express breastmilk and take it home.
I stopped breastfeeding because my nipples were painful.	You can experience discomfort in the few days after giving birth when they are learning to breastfeed. You can continue with EBF but with the right support with positioning the baby is correctly attached.

WHAT SHOULD I DO TO PRODUCE ENOUGH BREASTMILK FOR MY BABY?

- You must love your baby
- You must want to breastfeed
- Put your infant on the breast to suck as much as possible as that promote milk production
- Take a well-balanced diet and plenty of fluids like tea or juice and water, avoiding coffee and alcohol as they inhibit milk production and may also be excreted in milk
- Have enough rest and sleep
- Avoid anxiety as it has a negative effect on breast milk production



I AM HIV POSITIVE FOR HOW LONG SHOULD I BREASTFEED MY BABY?

- If the child is enrolled in ART continue with EBF
- Continue with breastfeeding up to 2 years or longer.
- Introduce complementary foods at 6 months.

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APPENDIX 19

LANGUAGE EDITING AND PROOFREADING CERTIFICATE

CONFIRMATION BY LANGUAGE EDITOR

Prof Donavon C. Hiss

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17 March 2020

To Whom It May Concern

This serves to confirm that I have edited the language, spelling, grammar and style of the **Doctor of Philosophy in Public Health (PhDPH)** thesis by **Mudau Azwinndini Gladys**, titled: **“An Intervention Programme to Promote Exclusive Breastfeeding Strategies in Limpopo Province, South Africa”**

The manuscript was also professionally typeset by me.

Sincerely Yours



Cert. Freelance Journalism, Dip. Creative Writing, MSc (Medicine), PhD