

**(COMPLETED RESEARCH)**

**FACTORS ASSOCIATED WITH POOR EXCLUSIVE BREASTFEEDING AMONG  
MOTHERS AT DWARSLOOP COMMUNITY HEALTH CENTRE, BUSHBUCKRIDGE,  
MPUMALANGA**

**By**

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## DECLARATIONS

I declare that **FACTORS ASSOCIATED WITH POOR EXCLUSIVE BREASTFEEDING AMONG MOTHERS AT DWARSLOOP COMMUNITY HEALTH CENTRE, BUSHBUCKRIDGE, MPUMALANGA** is my work in design and in execution and that all the material contained herein has been duly acknowledged by means of complete references. The mini-dissertation hereby submitted to the University of Limpopo, for the degree of Master of Public Health has not previously been submitted by me for a degree at this University or any other institution.

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Date: \_\_\_\_\_

## **DEDICATIONS**

I dedicate this dissertation to:

- My mother LaMasuku, for her love, guidance, support and taking care of my baby girl while I was away attending school.
- My daughter Snethemba who supported me during my hard times and had patience with me by being a good girl at home and at school.
- To all mothers who are practicing exclusive breastfeeding, we all know that it is not easy, but it is worth it

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- Mpumalanga Department of Health for allowing me to undertake this study.
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## **DEFINITION OF KEY CONCEPTS**

**Factors:** circumstances, facts and an influence that contributes to a result (oxford dictionary, 2010). In these study factors means the contributing events and circumstances associated with poor exclusive breastfeeding.

**Exclusive breastfeeding-** it means that an infant receives only breast milk as a source of nutrition, not even water, with an exception of prescribed medication and vitamin syrup ( WHO, 2011). In the study exclusive breastfeeding can be defined as providing breast milk only to the infant without giving any other solid or liquid for the first six months.

**Mother** – a woman in relation to her child through birth (Webster dictionary,2015). In these study a mother is a woman who gave birth to an infant and caring for that infant.

## **LIST OF ABBREVIATIONS**

DOH	Department of Health
HIV	Human Immune Virus
IYCFP	Infant and Young Child Feeding Policy in SA
PMTCT	Prevention of Mother To Child Transmission
RTHC	Road To Health Card
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organisation

## **ABSTRACT**

### **Background:**

Breast milk contains antibodies that help babies to fight off viruses and bacteria, thus, breastfeeding lowers the baby's risk of having asthma or allergies. Babies who are breastfed exclusively for the first 6 months, without any formula, have fewer ear infections, respiratory illnesses, and bouts of diarrhoea. Dwarsloop Community Health Centre (CHC) has low rates of exclusive breastfeeding (EFB), despite many efforts to increase this practice. The purpose of the study is to evaluate, understand, describe, explore and explain the factors contributing to poor exclusive breastfeeding among mothers at Dwarsloop Community Health Centre (CHC).

**Methods:** The proposed study was conducted using a quantitative research method. Data was collected using self-administered, structured questionnaires, with close-ended questions. The sample in this study was drawn from mothers of infants 0-6 months attending the child health clinic at Dwarsloop CHC during the period of data collection. A sample of 92 mothers was selected for the study.

**Result:** The highest proportion of the mothers had poor exclusive breastfeeding practice (73%). compared to good exclusive breastfeeding practice (27%). Factors associated with poor exclusive breastfeeding practice include experience of breast problems ( 77%), mothers who were embarrassed to breast feed in public (52%), mothers who were supported by their partners ( 39%), mothers who believe that their child was satisfied with breast milk only ( 49%) and mothers who were HIV-positive ( 54%).

**Conclusions:** Although EBF is the correct method for infant feeding, mothers still find it difficult to maintain the practice for up to 6 months. Interventions emphasizing practical education should be targeted at addressing factors associated with poor EBF.

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## 1. CHAPTER 1

### 1.1. INTRODUCTION AND BACKGROUND

Breastfeeding is the best option for infant feeding (Danso, 2014). The World Health Organisation (WHO) recommends that breastfeeding be initiated within the first hour of birth and continue exclusively for 6 months; with the introduction of complementary food after 6 months and continued breastfeeding up until 2 years or beyond (WHO, 2014). Breast milk is the best food for babies and contains all the nutrients they need to grow and need for the prevention of childhood illnesses. Children who are not breast fed are six times more likely to die from one of the three main baby-killer conditions, pneumonia, diarrhoea and malnutrition, than those babies who receive breast milk (Gatti, 2008).

Exclusive breastfeeding (EBF) is defined as providing an infant with no food or drink, not even water, other than breast milk, including expressed breast milk, for the first 6 months of life. However, exclusive breastfeeding does allow for the infant to receive oral rehydration solution, drops and syrups, vitamins, minerals and prescribed medicines only (WHO, 2014). Mothers are encouraged to feed their new-borns with colostrum, as the first feed immediately after birth. Exclusive breastfeeding confers a number of protective benefits on the children and their mothers (UNICEF, 2011). After 6 months of exclusive breastfeeding, mothers are still encouraged to continue breastfeeding, while introducing solids and liquids (American Academy of Paediatrics, 2012)

Globally, only 38% of infants between 0 and 6 months old are exclusively breastfed (Black, Victora, Walker, Bhutta, Christian & de Onis, 2013). In the USA, the national exclusive breastfeeding rate is 49.4 %, while in Canada it is 14% and in Sweden it is 10% (UNICEF, 2012). According to Ajibuah, 2014, 7.4% mothers in a study undertaken in Nigeria practiced EBF, with 78.9% initiating breastfeeding after an hour. The breastfeeding trend all over Africa with respect to infants younger than 6 months was found to be 35% in 2010. with the EBF rate in the Congo rate at 19.1%

and the EBF rate in Kenya at 12.7% (Cai, Wardlaw & Brown, 2012). South Africa has the lowest rate of EBF in the world; at 8% (NDoH, 2013). In the Mpumalanga Province of South Africa the EBF rate is 39% (van der Merwe, Du Plessis, Jooste & Nel, 2015). In a study conducted by Ladzani, Peltzer, Mlambo, and Phaweni, (2011) in Gert Sibande district of the Mpumalanga Province, less than half of women started EBF within an hour of delivery, while more than half the women surveyed said that they started exclusive formula feeding within an hour of delivery (Ladzani et al., 2011). In a similar study, 35.6% of the women surveyed were exclusively breastfeeding, while 50.6% were exclusively formula feeding, and 12.4% were mixed feeding (Ladzani et al., 2011).

Lack of understanding of the critical benefits of breastfeeding, compounded by fears of HIV transmission, among other factors, has hindered progress towards the promotion and support of breastfeeding in the country (Doherty, Chopra, Jackson, Goga, Colvin & Persson, 2007). Much remains to be done to make EBF the norm during the first six months of life of an infant. Recent analyses indicate that suboptimal breastfeeding practices, including non-exclusive breastfeeding, contributes 11.6% towards the total mortality rate in children under 5 years of age. This was equivalent to about 804 000 child deaths in 2011 (WHO, 2013).

Appropriate feeding of infants and young children is one of the more feasible interventions in child survival programmes designed to address this goal. The WHO infant feeding guidelines recommend that infants should be exclusively breast-fed for the first 6 months of life in order to achieve optimal growth, development and health of these infants (WHO, 2012)

Many factors influence a mother's ability to optimally feed her infant. Reasons for low rates of EBF include a lack of education about its benefits, a lack of support in the workplace and a culture of mixed-feeding, where breast milk is thought to be inadequate. Antenatal breastfeeding education as a single intervention that

contributes to increased rates of exclusive breast feeding (Barona-Vilar, Escriba-Aguir & Ferrero-Gandia, 2009).

Some of the factors influencing a mother's ability to optimally feed her infant include hospital practices, advertisement of breast milk substitutes and lack of support for the breastfeeding mother. Many women identify employment as a barrier to breastfeeding. In a study on infant feeding practices among nursing personnel in Australia, returning to work was one of the main reasons why women ceased breastfeeding, with 60% of women intending to breastfeed when they returned to work, but only 40% actually doing so (Danielle & Aneka, 2011).

In order for mothers to be able to breastfeed exclusively to the recommended six months, it is important to determine the factors contributing to poor exclusive breastfeeding among mothers at the Dwarsloop CHC.

## **1.2. RESEARCH PROBLEM**

Despite policies and health education in place regarding advantages of exclusive breast feeding and disadvantages of poor exclusive breast feeding, there is still an evident decline in exclusive breastfeeding. This motivates for the re-emphasise of exclusive breastfeeding hence these study was conducted.

## **1.3. PURPOSE OF THE STUDY**

### *1.3.1. Aim of the study*

The aim of the study is to evaluate, understand and explain the factors contributing to poor exclusive breastfeeding among mothers at the Dwarsloop CHC.

### *1.3. 2. Objectives of the study*

- To describe the socio-demographic characteristics of the mothers;
- To explore, determine and outline the factors associated with poor EBF among the mothers;
- To associate socio-demographic with factors associated with poor EBF.

#### **1.4 RESEARCH QUESTION**

What are the factors associated with poor exclusive breastfeeding among mothers at the Dwarsloop CHC?

#### **1.5 RESEARCH METHODOLOGY**

Brink, van der Walt and van Rensburg ,2013 define methodology as a way of obtaining, organizing and analysing data. In this study, quantitative and descriptive research design was used. The detailed methodology included research design, study site, population, sampling, data collection, reliability, validity, data analysis and ethical considerations, together with validity, reliability and bias, will be elaborated on in Chapter 3.

#### **1.6 ETHICAL CONSIDERATIONS**

The aspects of ethical considerations, such as ethical clearance, confidentiality, confidentiality, anonymity, informed consent, protection form harm and protection of privacy will be dealt with in Chapter 3.

#### **1.7 SIGNIFICANCE OF THE PROPOSED STUDY**

This study will be able to identify the gaps with regards to EBF. The factors associated to poor exclusive breastfeeding among mothers will highlight their views, experiences and challenges when breastfeeding; thus, recommendations can be made in order to improve the state of breastfeeding exclusively. The improved rates of EBF will contribute to Dwarsloop CHC becoming improved baby friendly facility, and also to the national trends of EBF throughout the country.

#### **1.8 Concluding remarks**

This summarizes the study in relation to background, the research problem and the methodology. The detailed literature review and methodology will be presented in chapters 2 and 3 respectively.

## **2. CHAPTER 2: LITERATURE REVIEW**

### **2.1. INTRODUCTION**

A literature review is an organised written presentation of what has been published on a particular topic by scholars, with the purpose of conveying to the reader what is currently known regarding the topic of interest (Burns & Grove, 2008)

Explaining the word breastfeeding by using each letter it is stated that: B - best for baby, R - reduces incidence of allergy, E - economical sufficient, A - antibodies availability, S - soft stools no constipation, T - temperature always ideal, F - fresh milk, E - emotional bonding between mother and baby, E - enough for baby satisfaction, D - digested easily, I - immediately available, N - nutritionally optimal, G - gastro intestinal problems reduced. (William & Shiel, 2015)

There are different forms of feeding which mothers practice for the first six months of a child's life from child birth (Goosen, McLachlan & Schübl ,2014). Exclusive breastfeeding means giving the infant breast milk only, as well as any minerals, vitamins and prescribed medicines, if needed, for the first 6 months of the baby's life. Mixed feeding means giving the infant breast milk and other fluids and solids. Mixed feeding may be further classified into predominant breastfeeding and partial breastfeeding. Predominant feeding means giving the infant breast milk and non-nutritive liquids, while partial feeding means giving the infant breast milk, as well as non-nutritive and nutritive liquids and solids (WHO, 2013).

### **2.2. Benefits of exclusive breastfeeding**

Exclusive breastfeeding has the single greatest potential impact on child mortality of any preventive intervention (WHO, 2013). Exclusive breastfeeding is the cornerstone of child survival and child health because it provides the essential, irreplaceable nutrition required for a child's growth and development. It serves as a child's first immunisation, providing protection from respiratory infections, diarrhoeal disease and other potentially life-threatening ailments. Exclusive breastfeeding also has a

protective effect against obesity and certain non-communicable diseases later in life (Horta & Victora, 2014)

Exclusive breastfeeding provides health benefits to mothers beyond emotional satisfaction. Mothers who breast feed recover from childbirth more quickly and easily than mothers who have not breastfed. The hormone oxytocin, released during breastfeeding, returns the uterus to its regular size more quickly and can reduce postpartum bleeding. Studies show that women who have breastfed experience reduced rates of breast and ovarian cancer later in life (Chung, Raman, Chew, Magula, DeVine, Trikalinos, & Lau. 2007)

Exclusive breastfeeding may reduce the risk of developing type 2 diabetes, rheumatoid arthritis and cardiovascular disease, including high blood pressure and high cholesterol (Brülde, 2011). Finally, exclusive breastfeeding delays the return of the mother's menstrual period, which can help extend the time between pregnancies (Kishore, Kumar & Aggarwal, 2008). Exclusive breastfeeding can provide a natural form of contraception, if the mother's menses have not returned, the baby must be breastfed day and night when the baby is less than six months old. (Black, Allen, Bhutta, Caulfield, de Onis, Ezzati, Mathers & Rivera, 2008).

### **2.3. The global burden of poor exclusive breastfeeding**

Globally, only 38% of infants are exclusively breastfed for the first four months of life. Recent analyses found that over 800 000 deaths and about 10% of the global burden of disease among children under-5 years in developing countries resulted from poor exclusive breastfeeding practices. (WHO, 2014)

The results from the Breastfeeding Rates and Programs in Europe show that between 13% and 39% of infants were exclusively breastfed (Theurich, 2019). In China, a study that aimed to examine the relative effect of maternal breastfeeding self-efficacy and selected relevant factors on the exclusive breastfeeding rate at 6 months postpartum was 4 % (Ip , Gao , Choi , Chau , Xiao , 2016). Exclusive

breastfeeding rates in U.S.A increased from 39% to 61% between 2011-2015(Feldman-Winter,2017 ) and Mexico had a decrease of exclusive breastfeeding to 14% in 2012.(Colchero , Contreras-Loya ,Hugo, Lopez-Gatell , de Cosío .2012).

According to the Turkish Population and Health Survey (TPHS) (2013) report, breastfeeding is very common in Turkey, with 96% of children breastfed for some period. However, despite many encouraging studies conducted in Turkey, both early initiation and exclusive breastfeeding rates are still far below the desired levels. Only 50% of children are breastfed within the first hour and the median duration of exclusive breastfeeding is only 1.2 months. The rate of EBF during the first six months fell to 30.1% in 2013 (Osman, Sabuncuoglu, Cahid Orenkul, Alperen Bikmazer and Seheryeli Yilmaz Kaynar.2014)

Breastfeeding practices within the WHO European Region, especially exclusive breastfeeding rates, far from comply with the WHO recommendations. There are marked differences between countries in breastfeeding practices, infant and young child feeding policy adoption and proportion of baby-friendly hospitals (Bosi, 2016).

#### **2.4. Poor exclusive breastfeeding in Africa**

Among sub-Saharan Africa countries, the prevalence of exclusive breastfeeding in Nigeria remains one of the lowest (17%), compared to other nations like Tanzania (50%) and Kenya (32%) (Agho & Page, 2015). Poor breastfeeding practices are widely documented in Kenya, where only a third of children are exclusively breastfed for 6 months, a figure which drops to 2% in urban poor settings. (Cherobon , Mbugua , Kamau-Mbuthia Sellen, 2012)

A study which was carried out at the Child Welfare Unit of the Maternal and Child Health Centre in the Niger Delta region of Nigeria found that 22.8% of infants were exclusively breastfed for 6 months (Egwuda, 2015). Only 18.1% of the mothers practiced EBF in Cameroon (Fombong ,Olang , Antai ,Osuorah , Poortvliet , Yngve ,2016). In Zambia, only 145/481 (30.1%) of the respondents in a study practiced exclusive breastfeeding up to six months, with 56/626 (8.9%) of the mothers giving pre-lacteal feeds (Katepa- Bwalya , Mukonka , Kankasa , Masaninga , Babaniyi and Siziya ,2015)In rural Egyptian communities, 29.9% of mothers exclusively breastfed their infants for 6 months after birth. (Shafei, 2014)

### **2.5. Poor exclusive breastfeeding in South Africa**

In South Africa, available national data suggest that most mothers initiate breastfeeding after birth. However, it has been observed that very few babies are exclusively breastfed during the first six months of life. Many babies also receive complementary foods between two and three months of age and, in some cases, even within a few days of birth. This suboptimal early nutrition profile predisposes South Africans to poor health outcomes in both their infant and young child years, as well as in adulthood (du Plessis, 2016)

Approximately 6% of babies were found to be exclusively breastfed in a cross-sectional community-based study conducted in Avian Park and Zwelethemba in Worcester, an urban area in the Western Cape (Goosen, 2014). A study done in the Vhembe District of the Limpopo Province drawing data from five primary healthcare clinics found that only 7.6% of the mothers practised exclusive breastfeeding, while 43,2% of the mothers had introduced their infants to solid foods at three months and 15% of the mothers had introduced their infants to solid foods before two months (Mushaphi , Mbhenyane , Khoza,2016). In a study conducted in the KwaZulu-Natal Midlands of South Africa, approximately 84.6% of the infants were found to be introduced to complementary feeding before they reached 6 months (Seonandan & McKerrow, 2015).

## 2.6. Factors associated with poor exclusive breastfeeding

### 2.6.1. Mothers related factors with exclusive breastfeeding

According to Mushaphi , Mbhenyane & Khoza ,2016: a number of social and structural barriers to optimal breastfeeding have been identified 1) poverty, livelihood and living arrangements; (2) early and single motherhood; (3) poor social and professional support; (4) poor knowledge, myths and misconceptions; (5) HIV; and (6) unintended pregnancies. The most salient of the factors emerged as livelihoods, whereby women have to resume work shortly after delivery and work for long hours, leaving them unable to breastfeed optimally. Women in urban poor settings face an extremely complex situation with regard to breastfeeding due to multiple challenges and risk behaviours often dictated to them by their circumstances (Mushaphi et al., 2016)

### 2.6.2. Health systems related factors with exclusive breastfeeding

In 2013, Kassier and Veldman reported that some health workers were still not convinced of the advantages of breastfeeding, even in the case of HIV-negative mothers. The study also found that staff lacked the necessary lactation-management knowledge and skills. An average of 65% of the health worker respondents indicated that it was possible to take a neutral stance in a counselling session, regardless of the health worker's personal preference for infant feeding. In addition, 60% of those who could not maintain neutrality in this regard, nonetheless believed, that it was in the mother's best interests to be counselled by them (Kassier & Veldman, 2013).

### 2.6.3. The consequences of poor exclusive breastfeeding on infant's growth

There are wide-ranging implications for infant health in relation to *whether* women breastfeed, *for how long*, and how *exclusively*. However, these health implications are not straightforward. In low- and middle-income countries (LMIC), the acute consequences (primarily diarrhoea and related death) of suboptimum

breastfeeding have been a priority in the promotion of breastfeeding. Globally, optimum breastfeeding could save as many as 823,000 lives annually (WHO, 2016).

In Cape Town, South Africa, according to Hunter-Adams, there are relatively low rates of infant mortality, compared both to other parts of South Africa and other parts of Africa, which could be a result of the relatively good access to medical care. Acute concerns should be associated with the long-term developmental consequences of poor nutrition during gestation and the first 24 months of an infant's life. The consequences of both under nutrition and being overweight during this period are far-reaching, impacting not only acute illnesses and chronic disease, but also healthy development and economic productivity (Hunter- Adams, 2016).

Poor breastfeeding contributes to 45% of neonatal infectious deaths, to 30% of diarrheal deaths and to 18% of acute respiratory deaths among children under the age of five in developing countries. It is also responsible for 10% of the disease burden in children younger than 5 years old (UNICEF, 2016)

## **2.7. Important activities to be done at health care system in relation to EBF**

According to WHO (2012), at the health-system level, there are 10 steps to successful breastfeeding. Every facility providing maternity services and care for new born infants should:

- Have a written breastfeeding policy that is routinely communicated to all health care staff.
- Train all health care staff in skills necessary to implement this policy.
- Inform all pregnant women about the benefits and management of breastfeeding.
- Help mothers initiate breastfeeding within half an hour of birth.
- Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.

- Give new born infants no food or drink other than breast milk, unless medically indicated.
- Practise rooming-in that is to allow mothers and infants to remain together - 24 hours a day.
- Encourage breastfeeding on demand.
- Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

## **2.8. Contraindications of breast feeding**

Breastfeeding is contraindicated under the following circumstances:

- In infants who have special health conditions such as galactosaemic and phenylketonuria;
- In cases where mothers have active untreated tuberculosis disease;
- Breastfeeding may not be in the best interest of the baby when breastfeeding mothers have herpes simplex lesions on a breast. In situations where the mother is using drugs of abuse (Canadian Pediatric Societ,2016)
- In certain circumstances where mothers are receiving diagnostic or therapeutic radioactive isotopes, antimetabolites or chemotherapeutic agents, small number of other medications or who had been exposed to radioactive materials, they should not breastfeed until these substances are cleared from the breast milk (Centers for Disease Control Traveler's Health Yellow Book,2010)

## **2.9. Interventions to improve exclusive breastfeeding**

### *2.9.1. Community*

According to Coffield community outreach teams should visit mothers during pregnancy, after delivery and during the breastfeeding period in order to provide

support and to provide mothers with health education regarding breast feeding, emphasising exclusive breastfeeding (Coffield, 2008). Amir and Donath, 2008 stated that Provision of community-based strategies to support exclusive breastfeeding counselling for pregnant and lactating women should be established. Peer-to-peer and group counselling to improve exclusive breastfeeding rates should be organised for the mothers in the health facilities (Amir & Donath, 2008).

### *2.9.2. Workplace*

According to Kosmala-Anderson & Wallace, 2006 In the workplace, the employer can ensure a minimum of four months paid maternity leave. There should be places provided and time protected for the mother to express/pump breast milk at work (Kosmala-Anderson & Wallace, 2006). Abdulwadud and Snow ,2007 states that the employer should ensure that there is no discrimination against women and mothers who are breastfeeding. Breastfeeding in the workplace helps build a healthy society. On-site child care makes it convenient for the breastfeeding mother to breastfeed exclusively when she's back at work. Flexible work schedules should be provided (Abdulwadud and Snow ,2007).

### *2.9.3. Policy makers*

Policy makers should significantly limit the marketing of breast milk substitutes. Policy intervention should strengthen the monitoring, enforcement and legislation related to the international breast milk code of marketing of breast milk substitutes (Rosenberg, Stull, Adler, Kasehagen & Crivelli-Kovach,2008). It is important to provide hospital and health facilities-based capacity to support exclusive breastfeeding so that the health system can be strengthened by expanding and institutionalising a baby-friendly hospital initiative in health systems (NDoH, 2013). According to WHO, the goal is to increase the rate of exclusive breastfeeding in the first six months by at least 50% by the year 2025 (Bartick, Stuebe, Shealy, Walker, & Grummer-Strawn, 2009)

### **3. CHAPTER 3: RESEARCH METHODOLOGY**

#### **3.1. Introduction**

The literature review was discussed in the previous chapter. This chapter deals with the methods and materials used in the study. Descriptions of the study design followed, the research setting and the study population will ensue. Sampling procedure and size will be clarified, including the inclusion and exclusion criteria. Data collection tools used to collect data and the measures taken to ensure validity and reliability of the tools will be explained. Potential sources of bias and the measures taken to minimise bias will be outlined. Furthermore, data analysis methods, statistical tests, as well as ethical considerations will be explained in this chapter

#### **3.2. Research design and research method**

Research design is the overall plan for gathering data in a research (Brink et al., 2012). The proposed study was conducted using a quantitative research method. The method was relevant in answering the research question and objectives. The study design used was a descriptive study design, which is concerned with gathering information from a representative sample of the population.

#### **3.3. Study setting**

Data was collected at Dwarsloop CHC, which is situated at Dwarsloop phase 2, 11 kilometres from Bushbuckridge, a town within the Bushbuckridge Municipality in the Mpumalanga Province of South Africa. Dwarsloop CHC is a primary health care facility located in Phase 2 of Stand no 1460. Dwarsloop CHC operates as a 24 hours health service provider. The population at Dwarsloop is 24 597. There are 2 549 children under 5 years of age and 368 children between 0 and 2 years of age in Dwarsloop.

Services provided by the health centre to children under 5 years of age are the integrated management of childhood illness, the expanded programme of

immunisations, paediatric HIV management and post-natal care. Villages which are served by the facility include the Dwarsloop location, Dwarsloop Trust, Motibidi, Kutung, Boikhutso and Saselani Trust.

### 3.4. Study population and sampling

A population, sometimes referred to as the target population, is the entire set of individuals or elements who meet the eligibility criteria (Burns & Grove, 2005). The population in this study included all mothers of infants aged between 0 and 6 months, attending the child health clinic at the Dwarsloop CHC in the Mpumalanga Province during the period of data collection.

A consecutive sample of mothers who were attending child health clinic at Dwarsloop CHC were drawn from the database between January 2017 and December 2017 in order to get the average number of mothers attending the health centre per month. Using this information, the average population was found to be 125 mothers per month, and a minimum sample size of 95.3 was, therefore, required for the study. This minimum sample size was calculated based on a sampling error of 5%, with a 95% confidence interval and, therefore, a total of 105 mothers were needed to participate in the study using the formula below (Singh & Masuku, 2012)

$$n = \frac{N}{1 + N(e)^2}$$

Where

- n is the sample size
- N is the population size of patients lost to follow-up
- e is the sampling error (5%)

### **3.5. DATA MANAGEMENT**

#### *3.5.1. Data collection tool*

A structured questionnaire, adapted from the DoH (Department of Health, South Africa, 2014), was used to collect the data. A researcher-formulated questionnaire was available in English and translated into the local Xitsonga language. This questionnaire was divided into three sections, namely, Section A: demographic data, Section B: contributing factors to poor exclusive breastfeeding, and, Section C: feeding practices.

#### *3.5.2. Pilot study*

A pilot study is a small version or trial run, done for the preparation for the major study (Polit & Beck, 2012). In this study, in order to test for face validity of the tool, a pilot study was conducted at the Dwarsloop CHC before the actual data collection period. The pilot study revealed that the estimated time to complete the questionnaire ranged from 10 to 15 minutes. The pilot study was also used to identify ambiguous questions that needed to be excluded from the questionnaire. No translation difficulties were identified. The pilot study population constituted part of the study sample for this study. Information that was obtained from the pilot study was used to modify the researcher-formulated questionnaire before it was utilised for this study.

#### *3.5.3. Data collection*

Data was collected using a self-administered questionnaire developed by the researcher with the help of the statistician. The researcher explained the aims and objectives of the study, the questionnaire and the ethical considerations to the participants. Any questions that the participants had were answered by the researcher. The participants were given questionnaires to complete which, on average took 20 minutes. After completion, the researcher collected the questionnaires and checked for full completion or not.

For the mothers who were unavailable or unable to be present at the facility, a weekend arrangement was made for data collection purposes. The nanny and other care givers were requested by the researcher to deliver the questionnaire, accompanied by the consent form, and a letter explaining the details about the research study to these mothers. The questionnaires were returned to the researcher after completion. The researcher's contact information as given to the care givers in the event that the mothers had any questions.

### **3.6. Inclusion and exclusion criteria**

Eligibility criteria, also referred to as sampling criteria, include a list of characteristics essential for membership of the target population (Burns & Grove, 2005).

#### *3.6.1. Inclusion criteria*

Mothers of infants aged between 0 and 6 months, irrespective of breastfeeding practices, participated in the study. Only infants attending the child health clinic at the Dwarsloop CHC were included in this study.

#### *3.6.2. Exclusion criteria*

Mothers of infants older than 6 months, and infants not attending the child health clinic at the Dwarsloop CHC were excluded from the study.

### **3.7. DATA ANALYSIS**

Data analysis involves quantifying and statistically reducing raw data in order to make interpretation and conclusions (Burns & Grove, 2005). The first phase of data analysis was done by checking the completeness of the questionnaires and the accuracy of information gathered therein. The second phase involved identifying statistical methods to be used to organise, reduce, summarize, manipulate, evaluate and interpret the data and to communicate the results (Brink et al., 2012).

The process of data analysis was done using Statistical Package for Social Science (SPSS) to calculate all statistics. Descriptive statistics were used to calculate frequency

distribution, means and standard deviation. Data was further organised according to the level of measures, i.e. nominal, ordinal and interval scales. The associations were determined using Pearson Chi-Square test, where level of significance was determined. The tables and figures were used to present the results for interpretation.

### **3.8. VALIDITY AND RELIABILITY OF THE STUDY**

#### *3.8.1. Validity*

Validity seeks to ascertain whether an instrument accurately measures what it is supposed to measure, given the context in which it is applied (Brink et al., 2012). The research instrument was assessed for face, content and construct validity.

##### *3.8.1.1. Face validity*

Face validity is a subjective determination that an instrument is adequate for obtaining the desired information (Brink et al., 2012). The questionnaire was presented to a statistician, who is an expert in analysing data, to check its format and consistency, in order to be able to deduce the results for the research.

##### *3.8.1.2. Content validity*

Content validity is the degree to which an instrument covers the scope and range of information that is sought (Brink et al., 2012). An in-depth literature review was done in the area of study to ensure content validity. Content validity in the current study was also undertaken by asking recognised experts in the field of study to give their expert opinion on the validity of the tool. Their responses were used to modify the research tools to be used. The tool was piloted, after the ethical approval and permission to conduct the study had been received.

##### *3.8.1.3. Construct validity*

Construct validity is the ability of an instrument to construct that it is intended to measure (Brink et al., 2012). The questionnaire was based on the literature reviewed and its relevance to the variables in the study.

### *3.8.2. Reliability*

Reliability is the consistency and dependability of a research instrument in measuring some variables, equivalence and internal consistency (Brink et al., 2012). The researcher confirmed reliability by pre-testing the instrument, which proved consistency and dependability of the questionnaire. Repeatability in the current study meant that, if other researchers obtained findings from a similar group, they should be able to repeat the study and get exactly the same results as the current study.

## **3.9. Ethical issues related to sampling**

Ethical considerations are a set of guidelines drawn up to protect the rights of research participants (van Der Walt & van Rensburg, 2006). For the purposes of this study, the researcher adhered to the following professional ethics:

### *3.9.1. Ethical clearance*

#### *3.9.1.1. Ethics and Permission to conduct the study*

Prior to conducting the study, the research proposal was submitted to School of Health Care Sciences Senior Degree Committee (SDC) and Faculty Higher Degree Committee (FHDC) for review. Following this approval, the research proposal was sent to the University of Limpopo's Turfloop Research Ethics Committee (TREC) for ethical approval. Purpose of the study was elaborated on in an information leaflet which was given to the participants. The ethical clearance letter obtained from the above-mentioned committees was used to seek permission from the Mpumalanga Provincial Department of Health Research Committee, and Dwarsloop CHC

#### *3.9.1.2. Informed consent*

The researcher was committed to obtaining, as much as possible, fully informed consent from the participants by giving them consent forms to sign. Participants

were informed that they had the right to withdraw from the research process at any time.

#### *3.9.1.3. Anonymity*

Participants were promised anonymity in any written reports. The written reports were Brink without using the names of the participants. All personal identity, or personally identifiable information of the participants remained unknown. The researcher provided each participant with a number to replace their names when collecting data or writing reports.

#### *3.9.1.4. Confidentiality*

Confidentiality is an important principle in health and social care because it functions to impose a boundary on the amount of personal information and data that can be disclosed without consent. Data was kept in a secure place.

#### *3.9.1.5. Non-judgmental*

The researcher used a non-judgmental attitude towards the participants. The researcher welcomed and accepted the respondents as they were given.

## **4. CHAPTER 4: PRESENTATION AND INTERPRETATION OF THE FINDINGS**

### **4.1 INTRODUCTION**

The researcher conducted quantitative, descriptive research to investigate the factors associated with poor EBF among the mothers at the Dwarsloop CHC. Structured data collection was aimed at:

- Describing the socio-demographic characteristics of the mothers;
- Describe, determining and outlining the factors associated with poor EBF among the mothers; and,
- The association of socio-demographic with factors associated with poor EBF.

The methods of data collection were discussed in Chapter 3. In this chapter, the research findings are presented and interpreted.

### **4.2. Demographic Information**

A total of 92 mothers participated in this study, of which the highest proportion was in age group 21-30 years at 34.8%, followed by those in the age group 31–40 years, those in the age group 18–20 years, those in the age group less than 18 years and, lastly, those in the age group above 40 years, at 22.8%, 22.8%, 14.1% and 5.4% respectively. This figures are presented in Figure 4.1 below.

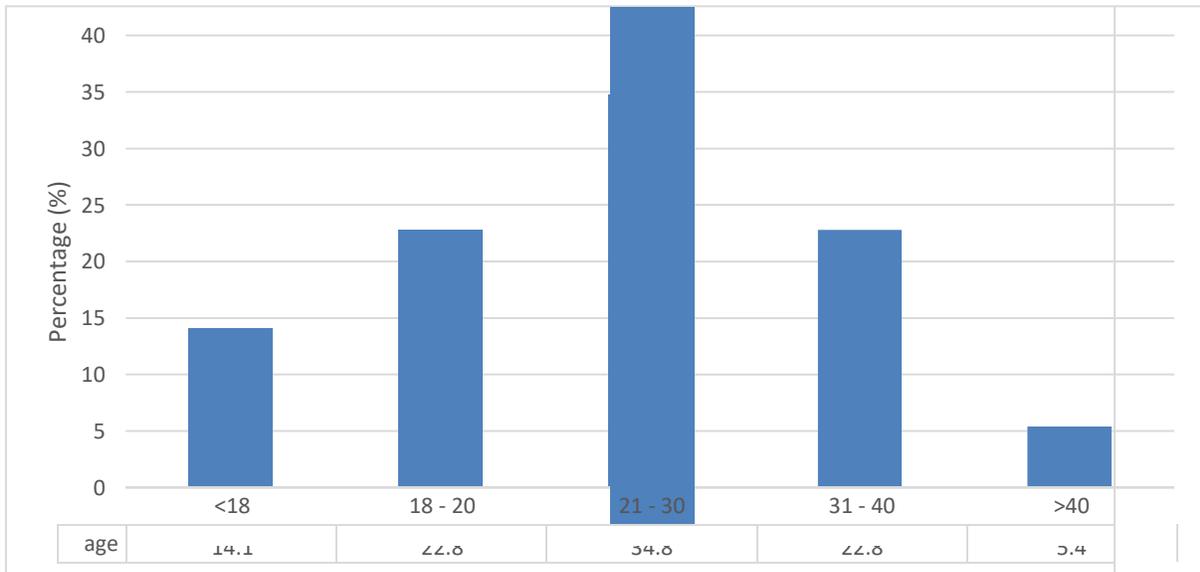


Figure 4.1: Participants' age distribution

A total of 92 mothers participated in this study, of which the highest proportion applied poor exclusive breastfeeding practice, at 73%, compared to those mothers who applied good exclusive breastfeeding practice, at 27%, as presented in Figure 4.2. below.

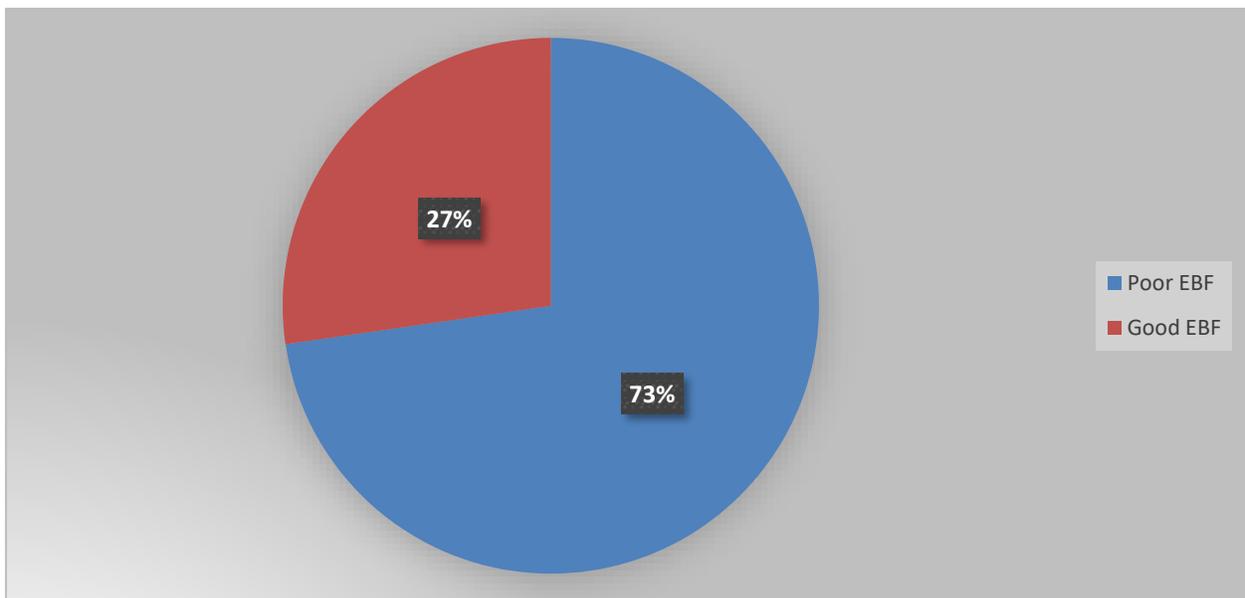


Figure 4.2: Proportion of mothers demonstrating poor exclusive breastfeeding practice versus mothers demonstrating good exclusive breastfeeding practice

The marital status of the participants showed a high proportion of mothers who were married. Forty-seven-point-five per cent of married mothers were in age group 21-30 years, followed by age groups 31-40 years, 18-20 years, above 40 years and finally less than 18 years, at 35%, 10%, 5% and 1%, respectively. Of participants who were single, the highest proportion is in age group 18-20 years (35.9%), followed by age groups less than 18 years, 21-30 years, 31-40 years and, finally, at above 40 years, at 28.2%,23.1%,10.3% and 2.6%, respectively. Of those mothers who were divorced, 36.4% were in the age group 21-30 years, followed by mothers in age groups 18-20 years, 31-40 years and, finally, above 40 years and less than 18 years, at 27.3%, 18.2% and 9.1%, respectively. Half the mothers who were widows were aged between 31-40 years and above 40 years, as presented in Table 4.1.

With respect to tertiary education level, the age group 21-30 years had the highest proportion at 44.4%, followed by age groups 31-40 years, 18-20 years and finally less than 18 years, at 37% and 18.5%, respectively. No participants in the less than 18 years or above 40 years age groups had tertiary education. With respect to secondary education the age group 21-30 years has the highest proportion at 34.7%, followed by age groups less than 18 years, 18-20 years, 31-40 years and, finally, the above 40 years, at 24.5%, 20.4%,14.3% and 6.1%, respectively. As far as primary education level is concerned, the highest proportion of mothers was found in the age group 18-20 years, at 35.7%, followed by the age groups 21-30 years and 31-40 years, both at 21.4%, while the age groups above 40 years and less than 18 years 14.3% and 7.1%, respectively. With regard to participants with no education, the highest proportion, at 50%, was in age groups 18-20 years and 31-40 years, while the lowest proportion, at 7.1 %, was in age age group 21-30 years. No participants in the less than 18 years and above 40 years age groups had any participants with no education, as presented in Table 4.1.

The highest proportion of the participants who were employed was at 50% age group 21-30 years followed by 31-40 years, 18-20 years, less than 18 years and above 40 years at 28.6%, 14.3 % and 3.6% respectively. Participants who were unemployed

highest proportion was at 29.6% age group 21-30 years followed by 25.9%,20.4%,18.5% and finally 5.6% age groups 21-30 years,31-40 years, less than 18 years and above 40 years respectively. Self-employed participants lowest proportion was at 10% age group above 40 years followed by less than age groups less than 18 years, 21-30 years, and 31-40 years at 20% and highest proportion at 30 % age group 20-30 years respectively as presented in Table 4.1. below.

Table 4.1: Association between age and selected demographics.

	Age (years)					p-value
	<18	18 – 20	21 – 30	31 – 40	Above 40	
<b>Marital status</b>						
Married	1 (2.5)	4 (10.0)	19 (47.5)	14 (35.0)	2 (5.0)	0.085
Single	1 (28.2)	14 (35.9)	9 (23.1)	4 (10.2)	1 (2.6)	
Divorced	1 (9.1)	3 (27.3)	4 (36.4)	2 (18.2)	1 (9.1)	
Widowed	0 (0.0)	0 (0.0)	0 (0.0)	1 (50.0)	1 (50)	
<b>Educational level</b>						
Tertiary	0 (0.0)	5 (18.5)	12 (44.4)	10 (37.0)	0 (0.0)	0.081
Secondary	12 (24.5)	10 (20.4)	17 (34.7)	7 (14.3)	3 (6.1)	
Primary	1 (7.1)	5 (35.7)	3 (21.4)	3 (21.4)	2 (14.3)	
No education	0 (0.0)	1 (50)	1 (7.1)	1 (50)	0 (0.0)	
<b>Employment status</b>						
Employed	1 (3.6)	4 (14.3)	14 (50.0)	8 (28.6)	1 (3.6)	0.791
Unemployed	10 (18.5)	14 (25.9)	16 (29.6)	11 (20.4)	3 (5.6)	
Self-employed	2 (20)	3 (30.0)	2 (20.0)	2 (20.0)	1 (10.0)	

## 4.2. Factors associated with poor exclusive breastfeeding

Seventy-seven percent of participants experienced breast problems (77%), compared to those who did not experienced breast problems (27%), as presented in Figure 4.3. below. Fifty-two percent of participants were embarrassed to breast feed in public, compared to those who were not embarrassed to breast feed (48%) as presented in Figure 4.3. below.

Thirty-nine percent of the participants were supported by their partners, compared 61% of participants who were not supported, as presented in Figure 4.3. below. Forty-nine percent of participants believe that their child was satisfied with breast milk, compared to 51% of participants who did not believe that their child was satisfied with breast milk, as presented in Figure 4.3. below.

Fifty-four percent of participants were HIV-positive, compared to 51% of participants who were HIV-negative, as presented in Figure 4.3. below.

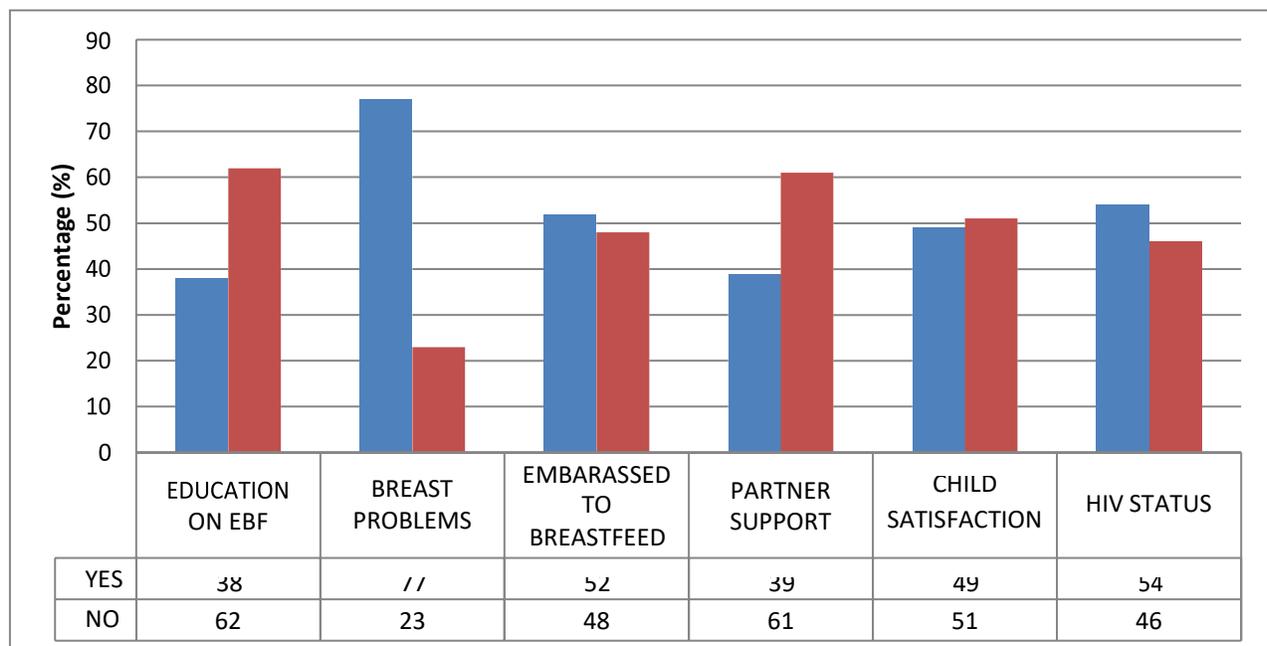


Figure 4.3: Overall factors associated with poor exclusive breastfeeding

Approximately 80% of mothers in the age group above 40 years did not receive education on exclusive breastfeeding, followed by those in age groups 31–40 years, 18–20 years and less than 18 years who did not receive education on EBF, at 71.4%,

66.7% and 61.5%, respectively. The highest proportion of mothers not supported by their partners to breastfeed exclusively was reported in the age group less than 18 years, at 6.9%, followed by those in age groups less than 18 years, 31-40 years, 18-20 years, 21-30 years and above 40 years, at 71%, 67%, 50 and 20%, respectively, as presented in Table 4.2.

The smallest proportion of mothers who believe that breast-milk only can satisfy their infants, at 49%, compared to 51% of the mothers who said breast-milk only cannot satisfy their infants. Considering age groups, the highest proportion of mother who said breast milk can satisfy their infants was in age group above 40 years, at 80%, followed by mothers in age groups <18,31-40,21-30,18-20 at 53.9%, 52.4%, 46.9% and 38.1% respectively, as presented in Table 4.2. Fifty-four percent of the participants who were HIV-positive, compared to 46% who were HIV-negative. The highest proportion of HIV-positive women were in the age group 18-20 years, at 67%, followed by participants in age groups 21-30 years, 31-40 years, above 40 years and less than 18 years, at 60%, 58%, 55% and at 33%. Respectively, as presented in Table 4.2 below

Table 4.2: Socio demographic factors with factors associated with poor exclusive Breastfeeding

	AGE IN YEARS									
	<18		18-20		21-30		31-40		>40	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Education on EBF	5 (38.5)	8 (61.5)	7 (33.3)	6 (66.7)	17 (53.1)	15 (46.9)	6 (28.6)	15 (71.4)	1 (20)	4 (80)
Experienced breast problem	10 (76.9)	3 (23.1)	14 (66.7)	7 (33.3)	28 (87.5)	14 (66.7)	14 (66.7)	7 (33.3)	5 (100)	0 (0)
Embarrassed to breastfeed	7 (53.9)	6 (46.2)	6 (28.6)	15 (71.4)	13 (40.6)	19 (59.4)	10 (47.6)	11 (52.4)	0 (0.0)	5 (100)
Support from partner	3 (23.1)	10 (76.9)	7 (33.3)	14 (66.7)	16 (50)	16 (50)	6 (28.6)	15 (71.4)	4 (80)	1 (20)
Child satisfaction	7 (53.9)	6 (46.2)	8 (38.1)	13 (61.9)	15 (46.9)	17 (53.1)	11 (52.4)	10 (47.6)	4 (80)	1 (20)
HIV status	5 (33.3)	10 (66.7)	10 (66.7)	53 (3.33)	15 (60.0)	10 (40.0)	14 (58.3)	10 (41.7)	6 (54.6)	5 (45.5)

Table 4.3: Association of socio-demographics and poor exclusive breastfeeding

Variable		Poor exclusive breastfeeding		P value
		Yes	No	
Age in years				
	<18	2 (9.5)	11 (15.5)	0.099
	18 – 20	8 (38.1)	13 (18.3)	
	21 – 30	3 (14.3)	29 (40.9)	
	31 – 40	7 (33.3)	14 (19.7)	
	>40	1 (4.8)	4 (5.6)	
Marital status				
	Married	9 (42.9)	31 (43.7)	0.473
	Single	7 (33.3)	32 (45.1)	
	Divorced	4 (19.1)	7 (9.9)	
	Widowed	1 (4.8)	1 (1.4)	
Level of education				
	Tertiary	4 (19.1)	23 (32.4)	0.528
	Secondary	13 (61.9)	36 (50.7)	
	Primary	3 (14.3)	11 (15.5)	
	None	1 (4.8)	1 (1.4)	
Employment status				
	Unemployed	8 (28.6)	20 (28.2)	0.035
	Employed	5 (23.8)	5 (7.0)	
	Self-employed	8 (38.1)	46 (64.8)	

Considering age groups, more participants who had poor exclusive breastfeeding practices were in the age group 18–20 years, at 38.1%, followed by 33.3%, 14.3% 9.5% and 4.8% of the participants in age groups 31–40 years, 21–30 years, < 18 years and >40 years, respectively. However, this difference was not statistically significant ( $p=0.099$ ). The highest proportion of poor exclusive breastfeeding practices among women was amongst married mothers, at 42.9%, followed by single mothers, divorcees and widows, at 33.3%, 19.1% and 4.8%, respectively. Employment status was significantly associated with poor exclusive breastfeeding practices with those who were

self-employed at 38.1%, compared to 28.6% of unemployed women and 23.8% of employed mothers ( $p=0.035$ ), as presented in Table 4.3 above.

Mothers feed their infants different type of food before 6 months. Overall formula was feed in 76% of cases. Highest proportion of mothers who formula fed was in age group 21-30 years, at 81%, followed by 75%, 63% and finally 8% in women in age groups 31- 40 years, less than 18 years and 18-20 years, respectively, as presented in Table 4.4. Liquid feeding of infants took place in 4.1% of cases. There was a similar proportion of liquid feeding in both age groups less than 18 years and 31-40 years, at 13%. Solid feeding occurred in 21% of cases, with the highest proportion in age group 21-30 years, at 19%, followed by 13%, 3%, 2% and 1% in age groups 31-40 years, less than 18 years, 18-20 years and above 40 years, respectively, as presented in Table 4.4.

The proportion of mothers who had 1 child was 48%. The highest proportion of mothers with 1 child per age group was 58% in age group 18-20 years, followed by 55%, 36%, 31% and 5% in age group 21-30 years, less than 18 years, 31-40 years and above 40 years, respectively. Overall of the mothers who had 2-3 children was at 28% and the highest proportion was at 46% in age group 31-40 years followed by 24%,23% and finally 3% age group 21-30 years, less than 18 years, and 18-20 years and above 40 years' same proportion respectively. Nineteen per cent of the mothers who had 4-5 children, with the highest proportion, 31%, in age group 31-40 years, followed by 19%,17%,16% in age groups above 40 years, 21-30 years and 18-20 years, respectively, as presented in Table 4.4. below.

Thirty-eight per cent of the mothers received health education on exclusive breastfeeding practices, with the highest proportion, at 54%, in age group 18-20 years, followed by 45%, 36%, 25% and 14% in age groups 21-30 years, less than 18 years, above 40 years and 31-40 years respectively, as presented in Table 4.4. below. The proportion of mothers who were HIV-positive overall was 52%, with the highest proportion of HIV positive mothers, at 55%, in age group 21-30 years, followed by 54%, 46%, 43% and 5% in age groups less than 18 years, 21-30 years, 31-40 years and above 40 years, respectively, as presented in Table 4.4. below. The proportion of all

mothers who were embarrassed to breastfeed was 55%, with the highest proportion, at 59%, in age group 21-30 years, followed by 57%, 59%, 46% and 39% in age group 31-40 years, less than 18 years and 18-20 years, respectively, as presented in Table 4. 4 below.

Table 4.4 Factors associated with poor exclusive breastfeeding stratified by age

Variable		Age groups in years					
		Overall	<18	18-20	21-30	31-40	>40
Type of food		% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
	Formula	76.6 (64.3 – 85.5)	12.2 (5.5 – 25.2)	22.2 (12.7 – 36.6)	38.8 (25 – 53.4)	26.5 (15.8 – 40.9)	-
	Liquids	3.1 (0.8 – 12.1)	50.0 (18.0 – 98.2)	-	-	50.0 (18.0 – 98.2)	-
	Solids	20.3 (11.9 – 32.3)	23.1 (7.1 – 54.1)	23.1 (11.3 – 60.8)	30.8 (11.3 – 60.8)	7.7 (0.9 – 42.1)	15.4 (3.5 – 47.4)
No. of children							
	1	43.3 (33.3 – 53.9)	10.5 (3.8 – 24.9)	20.5 (10.4 – 36.4)	46.2 (30.9 – 62.1)	17.9 (8.6 – 33.6)	5.1 (1.2 – 18.9)
	2 – 3	31.1 (22.2 – 41.6)	25.0 (12.1 – 44.6)	28.6 (14.6 – 48.3)	25.0 (12.1 – 44.6)	17.9 (7.4 – 37.1)	3.6 (0.5 – 22.)
	4 – 5	18.9 – 11.9 – 28.5)	11.8 (2.8 – 38.4)	23.5 (8.7 – 49.8)	35.3 (16.2 – 60.7)	29.4 (12.3 – 55.3)	-
	>5	6.7 (2.9 – 14.2)	-	-	16.7 (2.8 – 68.5)	50.0 (14.5 – 85.5)	33.3 (7.1 – 76.7)
Health education on exclusive breastfeeding							
	Yes	44.6 (34.6 – 55.0)	15.7 (7.9 – 28.7)	13.7 (6.6 – 26.5)	33.3 (21.6 – 47.6)	29.4 (18.4 – 43.6)	7.8 (2.9 – 19.5)
	No	55.4 (44.9 – 65.4)	12.2 (5.1 – 26.6)	34.1 (21.1 – 50.1)	36.6 (23.1 – 52.5)	14.6 (6.6 – 29.4)	2.4 (0.3 – 16.1)
HIV Status							
	HIV positive	54.3 (42.9 – 63.4)	14.3 (6.8n- 27.4)	28.6 (17.5 – 43.0)	30.6 (19.1 – 45.1)	22.4 (12.7 – 36.5)	4.1 (0.9 – 15.3)
	HIV negative	45.6 (35.6 – 56.1)	14.3 (6.4 – 28.8)	16.7 (8.0 – 31.5)	40.5 (26.5 – 56.1)	21.4 (11.3 – 36.7)	7.1 (2.3 – 20.4)
Embarrassed by breastfeeding							
	Yes	52.2 (41.8 – 62.3)	14.6 (6.9 – 27.9)	12.5 (5.6 – 25.5)	39.6 (26.6 – 54.2)	22.9 (12.9 – 37.2)	10.4 (4.3 – 23.1)
	No	47.8 (37.7 – 58.1)	13.6 (6.1 – 27.6)	34.1 (21.4 – 49.5)	29.5 (17.8 – 44.9)	22.7 (12.5 – 37.7)	-

Table 4.5 Determinants of poor exclusive breastfeeding

	Univariate Logistic Regression	
	OR (95% CI)	p-value
<b>Age in years</b>		
≤30	Ref	
>30	1.8 (0.6 – 5.1)	0.258
<b>Marital status</b>		
Married	Ref	
Single	0.6 (0.2 – 2.3)	0.615
Divorced	1.9 (0.5 – 8.3)	0.355
Widowed	3.4 (0.2 – 60.7)	0.398
<b>Employment status</b>		
Unemployed	Ref	
Employed	2.5 (0.6 – 11.1)	0.227
Self-employed	0.4 (0.1 – 1.3)	0.142
<b>HIV Status</b>		
HIV-Negative	Ref	
HIV-Positive	2.8 (1.1 – 7.3)	0.034
<b>Health education on EBF</b>		
Received health education on EBF	Ref	
No health education on EBF	3.3 (1.2 – 9.1)	0.024
<b>Embarrassed by breastfeeding</b>		
Not embarrassed by breastfeeding	Ref	
Embarrassed by breastfeeding	0.6 (0.2 – 1.6)	0.333
<b>Support of partner</b>		
Have support of partner	Ref	
No support of partner	1.8 (0.6 – 5.3)	0.263
<b>See child daily</b>		
Yes	Ref	
No	6.9 (1.5 – 32.5)	0.013
<b>Child caring</b>		
Self	Ref	
Family member	2.0 (0.6 – 6.6)	0.252
Day Care Centre	3.6 (0.9 – 14.4)	0.070
<b>No. of children</b>		
Primiparous	Ref	
Multiparous	2.2 (0.8 – 6.2)	0.001

Age, marital status, employment status, being embarrassed by breastfeeding and child caring were not significantly associated with poor exclusive breastfeeding. Mothers who were HIV-positive were 2.8 times more likely to apply poor exclusive breastfeeding practices, compared to HIV-negative mothers ( $p=0.034$ ). Those mothers who did not receive health education on breastfeeding were 3.3 times more likely to apply poor exclusive breastfeeding practices ( $p=0.024$ ). compared to those who received health education. Mothers who were unable to see their babies on a daily basis were 6.6 times

more likely to apply poor exclusive breastfeeding ( $p=0.013$ ) as compared to those who saw their babies on a daily basis, as presented in Table 4.5 above. The multiparous mothers were 2.2 times more likely to practice poor exclusive breastfeeding, compared to primiparous mothers ( $p=0.001$ ).

## 5. CHAPTER 5: DISCUSSION

Exclusive breastfeeding (EBF) is the optimal way to feed children during their first six months of life, having important benefits for them and their mothers. However, the proportion of mothers who continue to exclusively breastfeed their infants during the recommended six-month period in the current study was found to be low, at 27%, which is well below the World Health Organization's goal set of 90 %.

A total of 92 mothers participated in this study, with the highest proportion of women in age group 21-30 years, at 34.8%. The marital status of participants indicated a high proportion of mothers who were married, at 47.5 %. These figures are in contrast with the finding of a study by Williams, Webber , Pell , Grant ,Sanders, Choy, Edwards , Taylor, Meng-ChiehWu ,Phillips(2019) that found that majority (46%) of the participants were women in the age group 31– 40 years. With respect to the education level of the participants, 44.4% of the participants had tertiary level education.

This finding concurs with the findings of Van Rossem, Oenema ,Steeegers ,Moll, Jaddoe ,Hofman ,Mackenbach and Raat ,2009 who reported highest-educated mothers practice breastfeeding. In the same study conducted by van Rossem et al. (2009), approximately 95.5% of mothers started breastfeeding, of whom 73.1% were in the lowest-educated mother's category, which concurs with the findings of the current study, where only 16.9% of mothers applied poor exclusive breastfeeding practices.

The findings of the current study revealed that the highest proportion of the participants were employed, at 50%, which concurs with the findings of Mekuria and Edris, (2015) which reported that approximately 48% of professional working mothers were able to practice exclusive breastfeeding, while 52% of professional working mothers could not practice exclusive breastfeeding. According to WHO (2012) recommended practice for exclusive breastfeeding, professional working mothers find it extremely difficult to exclusively breastfeed their babies. Professional working mothers are knowledgeable on the practice of exclusive breastfeeding and with its benefits, but their fulltime employment status and the influence of family members, undermine and impede the

practice of exclusive breastfeeding. In this study, employment status of the mother was significantly associated with exclusive breastfeeding practice. Mothers who were unemployed were 1.98 times more likely to practice exclusive breastfeeding than employed mothers were.

In this study the factors significantly contributing to poor exclusive breastfeeding included mother's HIV status, mothers receiving health education on breastfeeding and mothers who were not able to see their babies on a daily basis. These findings concur with findings from a study by Berhe, Mekonnen, Bayray and Berhe (2013). The overall health education of the participants in this study on exclusive breast feeding was found to be at the lowest proportion, which could contribute to poor exclusive breastfeeding among the participants in the current study. As reported in a study by Mogre, Dery and Gaa (2016) mothers who had higher knowledge on exclusive breastfeeding were more likely to breastfeed than their counterparts with low knowledge in exclusive breastfeeding.

Support from partners or husbands have been demonstrated empirically to have a strong influence on a mother's decision to initiate and continue breastfeeding Sherriff, Hall and Panton (2014). In the current study, very few mothers were supported by their partners or husbands with regard to breastfeeding practices. In this study, a lack of support from a partner or husband was associated with poor exclusive breastfeeding; however, this difference was not statistically significant. More mothers in this study were not supported by their partners to breastfeed exclusively than those who were supported, which concurs findings of Arifah (2014).

The proportion of mothers who experienced breast problems in the current study was high, which concurs with the findings of Agunbiade and Ogunleye (2012). In addition to experiencing breast problems, more than half of the mothers in this study were embarrassed to breast feed in public, which concurs findings of, Mulready- Ward, Hackett, 2014. This may lead to low rates of exclusive breastfeeding and the continuation of breastfeeding, despite high rates of breastfeeding initiation. The

proportion of mothers in this study who believe that breast milk only can satisfy their infants was low, which concurs with Crocetti, Dudas , Krugman (2004) who reported that, among caregivers who introduced solids at less than 4 months, the majority stated that the child was not satisfied with formula or breast milk alone; and that approximately half of the participants stated that solids helped the child sleep better at night.

The proportion of participants in the current study who were HIV-positive was high, and this contributed to poor exclusive breastfeeding practice. This is contrary to the findings of Ssenyongaa (2014), who reported that, even after being counselled that HIV can be transmitted through breast milk, as many as 80% of HIV-positive mothers at upcountry centres in Uganda preferred to breastfeed.

In this study, the highest proportion of mothers applied poor exclusive breastfeeding practices, at 73%, compared to those who applied good exclusive breastfeeding practices, at 27%. This finding concurs with the findings of Saka (2012), who reported that the majority of mothers did not breastfeed their babies exclusively. In this study by Saka (2012), mothers reported giving the infants water, porridge and other liquids, which is similar to the findings of the current study, as majority of mothers gave their babies formula, followed by those who gave babies solids and water. In the current study, multiparous mothers were 2.2 times more likely to practice poor exclusive breastfeeding, compared to primiparous mothers, which is in contrary to findings of Tan(2011), who reported that the number of children of multiparous mothers were almost twice as likely to be exclusively breastfeed, compared to children of primiparous mothers.

### **5.3 Conclusions**

This study highlights the factors that contribute to poor exclusive breastfeeding. Little is known regarding factors influencing the decision by mothers in the Mpumalanga Province to practice EBF or not. Furthermore, there is no data about EBF rates among mothers in Bushbuckridge, Mpumalanga Province. Therefore, this study identifies the factors associated with poor exclusive breastfeeding practices among these mothers.

Although EBF is the correct method for infant feeding, mothers find it difficult to maintain the practice for up to 6 months after the baby is born. Interventions emphasizing practical education should be developed and targeted at addressing factors associated with poor EBF. Partners or husbands were found not be supportive of mothers with regard to breastfeeding, and HIV still plays a role in a mother's decision to breastfeed their babies or not.

#### **5.4 Recommendations**

Educational campaigns, in a form of pamphlets and posters, should emphasize that breast milk can provide complete nutrition for the baby within the first 6 months of life. This suggests that messages should be targeted at grandmothers, husbands, other family members and communities, in general, and not only at women of reproductive age. Breastfeeding-friendly working environments for working mothers, such as work site day care centres for infants, are recommended. Advocacy methods for the extension of maternity leave from 4 months to 6 months of the infants age is recommended in order to minimise childhood illnesses. Mothers should be taught about the correct infant feeding practices, from antenatal care to postnatal care these includes breast milk expression and storage, so that feeding can continue when they are separated from their infants,.

Necessary changes to legislation should be implemented for working mothers. Maternity leave of 6 months, 24 hours onsite work day care centers must be included. Attention to these factors may help to promote EBF among mothers. Privacy for breastfeeding mothers needs to be enhance, given the elevated risk of interrupting EBF in public places due to being embarrassed by breastfeeding in public places. Partners of the breastfeeding mothers should be involved in the care for the infant, and the benefits of EBF should be emphasised, in order for the partners to support the mothers. Education and counselling about EBF within the context of HIV among the mothers will go a long way to allay their fears of HIV transmission to their infants.

## **5.5 Limitations**

This study used quantitative research methods, involving a structured questionnaire with closed ended questions. This led to the limited outcomes outlined below. The participants had limited options as far as their responses were concerned, based on the selection made by the researcher. The participants who took part in the study were exclusively from the catchment area that is covered by the Dwarsloop CHC for the provision of health services, and so the findings may not be generalizable to other populations outside of this region.

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**Consent form**

**PROJECT TITLE: BARRIERS TO EXCLUSIVE BREASTFEEDING AMONG MOTHERS AT DWARSLOOP COMMUNITY HEALTH CENTRE.**

**PROJECT LEADER: MKHABELA ZANELE REJOICE**

I. .... , hereby voluntarily consent to participate in the following research project: **BARRIERS TO EXCLUSIVE BREASTFEEDING AMONG MOTHERS AT DWARSLOOP COMMUNITY HEALTH CENTRE.** Ehlanzeni district Mpumalanga province in South Africa. I also agree for the interview to be audio taped and the information will only be used for research purposes.

I realized that:

1. The study deals with the barriers to exclusive breastfeeding among mothers at Dwarsloop Community Health Centre. Importance of professional nurse's performance in the working environment.
2. The Dwarsloop Community Health Centre operational manager has approved that the individual may be approached to participate in the study.
3. The experimental protocol, that is the extent, purpose and the method of the study has been explained to me.
4. Access to the records that pertain to my participation in the study will be restricted to the persons directly involved in the research.
5. Any questions that I may have regarding the research or related matters will be answered by the researcher.
6. If I have any questions about, or problems regarding the study, or the experience undesirable effects, I may contact the researcher.

7. Participation in the study is voluntary and I can withdraw my participation at any stage.
8. I indemnify the University of Limpopo and all persons involved with the above project from any liability that may arise from my participation in the above project or that may be related to it, for whatever reasons, including negligence on the part of the mentioned parties.

SIGNATURE OF RESEARCH PERSON.....

SIGNATURE OF WITNESS.....

SIGNATURE OF THE RESEARCHER.....

Signed at .....on this.....day of. ....2018

## Data Collection Tool

### SECTION A

#### DEMOGRAPHIC DATA

Tick the correct answer with an X on the following questions

1. How old are you in years?

<18	1
18-20	2
21-30	3
31-40	4
above 40	5

2. What is your marital status?

Married	0	Divorced	2
Single	1	Widowed	3

3. What is your level of education?

None	0	Primary	2
------	---	---------	---

Secondary	1	Tertiary	3
-----------	---	----------	---

4. Employment status?

Unemployed	0
Employed	1
Student	2

5. Religion affiliation?

Christian	0
African tradition	1
Non-believer	2

## SECTION B

		Yes	No
5	Do you attend Dwarsloop Health Centre regularly?	0	1
6	Do you have road to health card?	0	1
7	Has your child ever been breastfed	0	1
8	Is your child currently breastfeeding	0	1
9	Have you ever received any health education on exclusive breastfeeding	0	1
10	Do you experience breast problems when breastfeeding	0	1

11	Do you feel embarrassed to breastfeed in public places	0	1
12	Do you have enough support from your partner on breastfeeding	0	1
13	Do you believe that your child is satisfied with breast milk only for the first six months	0	1
14	Are you HIV positive	0	1
15	Do you see your child everyday	0	1

### SECTION C

16. How often do you breastfeed in 24 hours?

4-6 times	0
> 6 times	1
On demand	2

17. Have you given your child anything else rather than breast milk?

Yes	0
No	1

If yes what?

formula	0
---------	---

liquids	1
solids	2

18. Do you have any information on breastfeeding?

Yes	0
No	1

If yes, where do you obtain the information?

Health care workers	0	Church members	2
Family	1	Friends	3

19. How many children do you have?

1	0	4-5	2
2-3	1	>5	3

20. Who cares for your baby most of the time?

Myself	0
Family member	1
Day care centre	2

# ETHICAL APPROVAL



**University of Limpopo**  
Department of Research Administration and Development  
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**TURFLOOP RESEARCH ETHICS  
COMMITTEE CLEARANCE CERTIFICATE**

**MEETING:** 02 November 2017

**PROJECT NUMBER:** TREC/318/2017: PG

**PROJECT:**

**Title:** Factors associated with poor exclusive breastfeeding among mothers at Dwarsloop Community Health Centre, Bushbuckridge, Mpumalanga  
**Researcher:** ZR Mkhabela  
**Supervisor:** Dr E Maimela  
**Co-Supervisor:** Prof L Skaal  
**School:** Health Care Sciences  
**Degree:** Masters in Medical Sciences

  
**PROF. TAB MASHEGO**  
**CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE**

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: REC-0310111-031

**Note:**

- i) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.
- ii) The budget for the research will be considered separately from the protocol.  
**PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.**

*Finding solutions for Africa*

# PERMISSION TO CONDUCT THE STUDY FROM MPUMALANGA DEPARTMENT OF HEALTH



health  
MPUMALANGA PROVINCE  
REPUBLIC OF SOUTH AFRICA

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**Ms. Zanele Mkhabela**  
**P.O BOX 358**  
**Bushbuckridge**  
**1280**

Dear Ms. Zanele Mkhabela

**APPLICATION FOR RESEARCH & ETHICS APPROVAL: FACTORS ASSOCIATED WITH POOR EXCLUSIVE BREASTFEEDING AMONG MOTHER AT DWARSLOOP COMMUNITY HEALTH CENTRE, BUSHBUCKRIDGE, MPUMALANGA**

The provincial health research committee has approved your research proposal in the latest format you sent.

- Approval Ref Number: MP\_201803\_007
- **Period: 04/05/2018 to 31/10/2019**
- Facilities: DWARSLOOP CHC

Kindly ensure that the study is conducted with minimal disruption and impact on our staff, and also ensure that you provide us with the soft or hard copy of the report once your research project has been completed.

Kind regards

  
**MS. T.Z MADONSELA**  
**MPUMALANGA PHRC**

  
**DATE**

