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FACTORS INFLUENCING MOTHERS OF PREMATURE INFANTS' DECISION MAKING AROUND INFANT FEEDING IN A NEONATAL UNIT

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of

Master of Science in Nursing

Johannesburg, 2022

DECLARATION

I, Mokganyetji Tetelo Mashoene declare that this research report is my own work. It is being submitted for the degree of Master of Science in Nursing at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

Signature …….

22nd day of September 2022

DEDICATION

This work is dedicated to all the mothers to premature infants who strive to do their very best in caring for their babies.

ACKNOWLEDGEMENTS

I would like to thank God for His mercy and grace that carried me through.

A special thank you to my supervisor Claire Bracher for her tireless support, encouragement and for believing in me even when I struggled to believe in myself.

Thank you Dr Ntombifikile Klaas for all your assistance, you are appreciated.

To my parents, Boledi and Ngwanaila, words cannot begin to describe my gratitude

To my sister Takatso Mashoene, you are God sent.

To my family at large, the support you have shown me throughout this journey is great, and I love you all.

To my best friend Tsholofelo Matlhlola, thank you for everything.

ABSTRACT

Background: The rate of preterm births increases every year. Preterm births make a remarkable contribution to the global neonatal mortality rate. Breast milk feeding is one of the economical interventions proven to significantly reduce the rate of neonatal morbidity and mortality, as well as the burden of preterm births. However, preterm infants are less likely to receive breast milk feeds than the infants born at term. Various factors such as socio demographic factors like a woman's age, parity, employment status, level of education, the physical environment, the media and society, among others, largely influence mothers to preterm infants' decision towards infant feeding.

Aim: The aim of the study was to describe factors that influence mother's decision regarding her infant feeding when her baby is admitted into a neonatal unit.

Methodology: A descriptive qualitative approach was used. A purposive sample of 18 (n=18) mothers to preterm infants admitted into the three selected neonatal units was selected. Data collection took place in a tertiary hospital in Gauteng. Semi- structured interviews with the mothers to preterm infants admitted in the neonatal units were conducted. Thematic analysis was used to analyse the data.

Results: The decision around preterm infants feeding is a complex endeavour. A woman's self-efficacy is vital in decision making. It is influenced by several factors such as a woman's past experiences, the health benefits of breastmilk feeding for both her and her preterm infant, social influences and the media. In this study, the three main themes that emerged were: 'breast is best- the benefits', 'barriers to breast milk feeding' and 'the role of an institution towards decision making'.

Recommendations: Considering the crucial role breastmilk feeding plays in preventing and reducing prematurity related morbidity and mortality, advocacy for breastfeeding is important. It is pivotal to pay special attention and targeted attention to factors that influence decision making surrounding preterm infant feeding.

Keywords: infant feeding, preterm infants, decision-making, neonatal unit.

TABLE OF CONTENTS

DECLARATION.....ii

DEDICATION..... iii

ACKNOWLEDGEMENTS.....iv

ABSTRACT v

CHAPTER 1: OVERVIEW OF THE STUDY……..1

1.1 Introduction……. ……....1

1.2 Background……. ……....2

1.3 Problem statement……. ……..9

1.4 Research question……. …….10

1.5 Purpose of the research study……. ……...10

1.6 Objective of the study……...….10

1.7 Operational definitions……...…10

1.8 Overview of the research methodology…….12

1.9 Outline of the study……...….12

1.10 Conclusion……....…13

CHAPTER 2: LITERATURE REVIEW…….14

2.1 Introduction……...14

2.2 Theoretical foundation of the study……....15

2.3 Summary……. …….....22

CHAPTER 3: RESEARCH DESIGN AND METHODS……23

3.1 Introduction……. …….23

3.2 Research aim…….....23

3.4 Research setting……...…….23

3.5 Research design……...…….24

3.6 Research methods……...……...24

3.6.1 Population…….....25

3.6.2 Sample and sampling ……....25

3.7 Data collection……26

3.8 Data analysis……...28

3.9 Measure of trustworthiness…….29

3.10 Ethical considerations…….…….....31

3.11 Summary……....……...32

CHAPTER 4: FINDINGS OF THE RESEARCH……...33

4.1 Introduction……...……....33

4.2 Participant's demographic data……...…….....33

4.3 Emergent themes……...……...….35

4.4 Summary……....……....44

CHAPTER 5: DISCUSSION OF FINDINGS, LIMITATIONS AND RECOMMENDATIONS……45

5.1 Introduction……45

5.2 Discussion of findings……45

5.3 Summary of the findings……50

5.4 Limitations of the study……50

5.5 Recommendations……51

5.6 Conclusion……51

5.7 List of references……...53

ANNEXURES

Annexure 1: Information sheet……60

Annexure 2: Consent form……62

Annexure 3: Consent to audio recording……63

Annexure 4: Interview guide……64

Annexure 5: Approval letter from the Hospital……65

Annexure 6: Ethics clearance ……66

Annexure 7: Tittle approval letter……67

Annexure 8: Language and proof of editing……68

LIST OF TABLES

Table 4.1: Demographic data of participants……...33

Table 4.2: Summary of findings and themes……...35

ABBREVIATIONS

Kangaroo Mother Care KMC

Neonatal Intensive Care Unit NICU

World Health Organisation WHO

United Nations International Children's Emergency Fund UNICEF

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

The first chapter of the study provides an overview of the study, which incorporates an introduction to the study, background information, problem statement and the research question, the purpose of the study, objectives and operational definitions. An outline of the study will be provided.

Breastfeeding is the preferred and healthiest choice of infant feeding, associated with multiple health benefits to both the baby and the mother, with even more pronounced benefits for the preterm infants (Mastrup, 2014). It is associated with better cognitive development in childhood and even more so for the preterm infants (Rayfields et al., 2015). Breastfeeding reduces the incidence and the severity of prematurity related morbidities such as necrotizing enterocolitis, retinopathy of prematurity and late onset of sepsis (Ramoloko et al., 2019). However, even with the well documented benefits of breast milk feeding for preterm infants. The rates of breast milk feeding amongst preterm infants remain significantly lower than that of babies born at term (Brockway et al., 2018).

Children rely on their families and communities at large to make dietary decisions on their behalf (Nieuwoudt et al., 2019). In a case of preterm infants, the decision to breastfeed or not to breastfeed rests on the mother unless in situations that are limiting. These situations may include instances where the infant is born with a rare genetic metabolic condition like classic galactosemia, where the infant in not able to breakdown galactose which is found in breastmilk.

The process of decision making necessitates social, cultural as well as political factors which are often informed by several other aspects (Primo et al., 2016).

1.2 BACKGROUND

An increasing number of preterm infants are born every year (Mastrup, 2014). Worldwide, an annual 1.1 million neonatal deaths are credited to complications related to preterm births (Wagura et al., 2018), rendering preterm births as the biggest cause of neonatal mortality and the second leading cause of death following pneumonia, in children under the age of 5 years (Teklay et al., 2018). A significant mortality rate of 21 per 1000 live births was highlighted by the South African Demographic Health Survey (Rhoda et al., 2018). The findings in South Africa are comparable with the global statistics, rendering prematurity as one of the drivers of neonatal deaths with extreme low birth weight (weight<1000g) contributing significantly to the mortality figures (Rhoda et al., 2018).

According to a study by Salimah (2020) on the global burden of preterm births, the low to middle income countries tend to experience an increased burden of premature births with Southeast Asia and Sub-Saharan Africa regions accounted for most of the burden. Given the serious resource constraints in South Africa, interventions that are economical are crucial to addressing the burden of premature births. One of the cost-effective interventions proven to improve neonatal outcomes and dramatically reduce the number of neonatal deaths is breastfeeding (Nguyen et al., 2018).

Breastmilk is the best form of feeding for preterm babies. It has significant benefits including but not limited to its protective factor on the underdeveloped gastro-intestinal system of the preterm infant as it contributes to bowel maturation and development of normal flora (Daglas

et al., 2020). Although the benefits of exclusive breastmilk feeding are well documented in research, exclusive breastmilk feeding remains a rare practice in South Africa (Chakonag, 2020). Exclusive breastfeeding is at 11.6% in infants < 4 months of age, and 8.3% in infants< 6 months of age, and therefore rates are amongst the lowest in the world compared to the global rate at 38%, as per WHO' s global database of infant and young child feeding rates (Steyn et al., 2017). These findings are comparable to the findings from a study by Pillay et al. (2018) on infant feeding practices of teenage mothers attending a well- baby clinic in a public hospital in Umlazi, these authors reported that there is an estimated 7.4 % on the exclusive breastfeeding rates up to six months of age in South Africa (Pillay et al., 2018).

When it comes to children's diet, the family and the community at large are privileged in making the decisions surrounding the choice of diet (Nieuwoudt et al., 2019). Mothers are tasked with the responsibility of deciding whether to breast milk feed their infants or not to breast milk feed their infants except in limiting situations. A study by Primo et al. (2016) on the factors that influence women in the decision to breastfeed highlights the benefits of breastfeeding as being one of the factors that influence women in their decision towards breastfeed.

A study by Santacruz-Salas et al. (2019), highlighted that the likelihood of breastfeeding success is related to a woman's level of self- efficacy, that how they perceive their capacity to breastfeed, enables them to set expectations even before delivery. In agreement, a study by Primo et al. (2016) stated that women are driven by their desire and inner motivation towards breastfeeding. The same study spoke to the women 's confidence in her abilities to provide adequate milk for her infant as having weight in whether she decides to breastfeed or not breastfeed her preterm infant.

Socio demographic factors like a woman's age, parity, employment status and the level of education amongst other factors were reported as having an influence as to what a mother decides to feed her preterm infant (Hadisuyatmana et al., 2020). According to an Ethiopian study by Abie et al. (2019), elder mothers above the age of 35 years- were less likely to practice early initiation of breastfeeding, as mothers preferred to bath first as they viewed themselves as being impure after birth. The findings of a Sri Lankan study indicated that women were less likely to initiate breastfeeding within one hour for their first-born child. This was associated with many doubts about how to position and attach the child to the breast (Seranath et al., 2012). This a major delay factor in breastfeeding, and it is not in accordance with the recommendation from WHO that breast milk feeding should begin within the first hour after birth as it increases survival rate in children and prevents neonatal mortality rate by 33% (Abie et al., 2019).

Several study findings indicated that women who have no formal education delayed initiation of breastfeeding (Patel et al., 2010; Mihrshahi et al., 2010; Rahman et al., 2011). According to the findings of a Pakistanian study on determinants of suboptimal breast-feeding practices in Pakistan, working mothers were reported to be more likely to delay initiation compared to non-working mothers (Hazir et al., 2013).

Other factors that influence a woman's feeding choices regarding their preterm infants while they are admitted into a neonatal unit are related to the hospitalisation. The physical environment of the Neonatal Intensive Care unit (NICU) is technical and not always mother baby friendly and this translates to mothers receiving inadequate support in initiating and maintaining breastfeeding. A study by Theurich et al. (2021) commented on the lack of proper health facility planning as being a barrier to breastfeeding.

The medical support demanded by preterm infants poses a risk to breastfeeding, especially the extreme low birth infants as they are not always clinically stable enough to commence feeding. This translates to preterm infants having to turn to delayed or rather late initiation of breast milk feeding which has been reported to increase the risk of morbidity and mortality by 33% (Abie et al., 2019). In this instance the decision to practice early initiation of breastfeeding has been taken away from the mother. A study by Theurich et al. (2021) reported on the neurological immaturity of preterm infants as being one of the barriers to breastfeeding, as they are not always able to feed directly from the breast. In agreement, a study by Hadisuyatmana et al. (2020) on women's empowerment and determinants of early initiation of breastfeeding, commented that preterm infants' innate conditions such as suckling and lactation problems and other conditions that necessitate intensive care attention pose an inevitable challenge to breastfeeding.

Separation of the preterm infant from their mother and the physical setting of a neonatal unit constitutes a risk to establishing and maintaining breastfeeding (Brockway et al., 2018). The same study on Breastfeeding self- efficacy and breast milk feeding for moderate and late preterm infants in the family integrated care trial, highlighted that family centred care is pivotal in enhancing maternal breastfeeding self-efficacy and increased breastfeeding rates in preterm infants as it supports and integrates active participation of the parent in the care of their preterm infant while admitted to a neonatal unit. In agreement, a study by Frank et al. (2019) on the comparison of Family Centred Care with family integrated care and mobile technology on preterm infant and family outcomes emphasized the positive outcomes of active parental involvement in the care of their preterm infants, on the breastfeeding rates and earlier discharge on the preterm infant.

The study by Brockway et al. (2018) commented on the current practitioner focused care culture in the NICU and how it negatively impacts the breastfeeding self- efficacy in mothers. The current practice in the NICU positions health care practitioner as primary care givers of the infants and simultaneously relegating mothers to roles of that of supplementary care givers limiting their involvement in the care of their infants.

The study by Aija et al. (2019) on parents' presence and participation in medical rounds in eleven European neonatal units, identified the role of parents as passive and that of recipients of information in a NICU setting. Furthermore, a study on close collaboration with parents' intervention improves family centred care in different neonatal unit contexts, commented on the concerns from parents who reported not being adequately included in the care of their infants, how the health care staff tends to assume control over their infants without any negotiation of their parental role and participation in the care of their infants (Toivonen et al., 2020).

The social context tends to play a role in influencing mothers while faced with the decision regarding their infant feeding choices. Mothers tend to look up to their families, health care professionals, the media, websites and books for recommendations regarding motherhood and breastfeeding (Ragusa et al., 2020). A study conducted by Hadisuyatmana et al. (2020) on women empowerment and determinants of early initiation of breastfeeding has highlighted the impact of a woman 's position in a household on decision making, that the decline in the practice of exclusive breastfeeding could be explained by women's inferior positions within households.

According to a study by Santacruz-Salas et al. (2019) on mothers' expectations and factors influencing exclusive breastfeeding during the first 6 months, highlighted that social influences may prove beneficial towards women's decision-making process, that if those that have influence in a woman's life are in support of and advocate for breastfeeding, the woman is likely to breastfeed. The perceptions of the father and the grandmother are regarded as valuable, that if they see breastfeeding as being good for the baby, lactating mothers may feel encouraged and more likely to breastfeed their infant (Primo et al., 2016). A study by Chakona (2020) that was conducted in a South African setting echoed the above findings, reporting that the knowledge and the decisions made by the grandmother were regarded as critical concerning feeding practices. In contrast, a study on the social circumstances and cultural beliefs influence maternal nutrition, breastfeeding and child feeding practice argued that cultural practices that compete with breastfeeding tend to sway mothers' decision against breastfeeding, for instance, the believe that mothers are to abstain from sextual intercourse for at least a period of 3 months to avoid making their breast milk impure and making their infant sick, tend to terminate breastfeeding earlier (Chakona, 2020)

A study by Ragusa et al. (2020) on breastfeeding in hospitals: factors influencing maternal choice in Italy, applauded the presence of professionally trained lactation consultants within the hospital setting as a valuable investment. The study further reported that one to one consultation with a nurse dedicated to teaching correct techniques, providing timely information regarding breastfeeding proved to be an effective intervention in breastfeeding support. Mothers tend to rely on the recommendations from the health care professionals to inform their decision towards their infant feeding. A study by Theurich (2021) reported on the significance of providing skilled counselling and empowering both new and expectants mothers with accurate timely information, in support of breastfeeding.

An Italian study on breastfeeding in hospitals: factors influencing maternal choice, suggested that mothers who attend prenatal courses are encouraged to breastfeed, which could sway a mother's decision in favour of breastfeeding their preterm infant (Ragusa et al., 2020).

Efforts to promote breastfeeding are beneficial to breastfeeding outcomes. For instance, rooming in, and admitting both mother and their infant in the NICU has been suggested to increase the establishment of breastfeeding. A study by Theurich et al. (2021) on supporting breastfeeding of small, sick and preterm neonates, reported that rooming in of both mother and their infant is associated with decreased infant mortality and early establishment of exclusive breastfeeding.

In a study conducted in Sweeden, Kangaroo Mother Care was proven as beneficial to both mother and preterm infant. Kangaroo Mother Care (KMC) has been associated with early attainment of breastfeeding prevalence among preterm infants (Oras et al., 2016). In support of Kangaroo Mother Care, a study by Godbout et al. (2016) on Factors associated with infant feeding practises in adolescent population, suggested that taking part in skin-to-skin contact is positively associated with the decision to breastfeed.

The Baby- Friendly Hospital Initiative (BFHI) is an evidenced-based programme designed to improve breastfeeding outcomes (Howe-Heyman et al., 2016). It includes a ten-step program designed by WHO/UNICEF (Unite Nations International Children's Emergency Fund) with the intention of improving breastfeeding initiation, duration and exclusivity (Howe-Heyman et al., 2016). According to WHO/UNICEF, women and infants' health outcomes have improved due to the benefits of the BFHI (Howe-Heyman et al., 2016). However, the researcher has observed that in the academic hospital where the current study took place, most mothers appear not to be breastfeeding their infants seeing that the hospital is yet gain BHFI accreditation.

Despite strategies put in place in support and promotion of breastfeeding, the rates remain very low in South Africa. According to literature and research, only 23, 2% of neonates discharged from an academic hospital in Gauteng were exclusively breastfed. The consequences of this would include increased morbidity and mortality (Sepeng et al., 2015). This is in comparison with the global estimate of 36% of infants who were born in 2015, who were exclusively breastfed (Nguyen et al., 2018). A study by Ragusa et al. (2020) stated that mothers who do not initiate breastfeeding within a few hours after childbirth, are less inclined to breastfeed or they will stop breastfeeding earlier than it is recommended. Since premature infants are at the initiating point of breastfeeding, this study aims to describe factors that influence mother's decision to breast milk feed or not to breast milk feed their infants while they are admitted to a neonatal unit.

1.3 PROBLEM STATEMENT

Despite the strategies put in place to support and promote breastfeeding, breastfeeding rates in South Africa remain low. Babies admitted in neonatal units are at a higher risk of being exposed to the consequences of not being breastfed than full term infants. These consequences can lead to increased morbidity and mortality for the preterm infant.

South Africa's high rates of preterm births is associated with the low socio- economic status and access to antenatal care services (Tshotetsi et al., 2019). Studies have shown that breastfeeding rates in an academic hospital in Gauteng's neonatal units are low. Factors that influence breastfeeding include but not limited to personal, social, cultural and environmental circumstances.

Given that South Africa is a low resource setting (Ramokolo et al., 2019), cost effective interventions are vital in addressing the health burden of preterm births. Breast milk feeding is known to significantly improve outcomes for preterm infants. The ultimate decision lies with

the mother, yet little is known about what influences their decision making around infant feeding. This research aims to describe factors that influence a mother's decision concerning her infant feeding choice when they are admitted to a neonatal unit in an academic hospital.

1.4 RESEARCH QUESTION

What factors influence a mother of a premature infant when choosing a method of feeding for her baby when it's admitted to a neonatal unit?

1.5 PURPOSE OF THE RESEARCH STUDY

The purpose of this research study is to describe factors influencing a mother's decision towards infant feeding when her baby is admitted to a neonatal unit in an academic hospital in Gauteng.

This research will provide insight into these factors which may be used to influence health education and policies around breast milk feeding.

1.6 OBJECTIVE OF THE STUDY

To explore and describe factors considered in a mother's decision to breastfeed or not to breastfeed her baby when it is admitted to the neonatal unit.

1.7 OPERATIONAL DEFINITIONS

Breastfeeding: The action of feeding the baby with milk directly from the breast. This is not always readily attainable with preterm infants; however, they derive a lot of nutrients from breast milk feeding (Theurich, 2021). In this study, breastfeeding refers to the act of feeding breast milk either directly from the breast or through a nasogastric feeding tube.

Exclusive breastfeeding: Is defined as giving strictly breast milk only to the baby for a period of six (6) months, apart from vitamins and other medication (Perez-Escamilla, 2019).

Donor milk feeding: Refers to feeding the baby milk that was donated and had undergone the process of pasteurisation, within prescribed regulations (Quigley, 2019).

Breast milk feeding: Refers to feeding expressed breast milk to a mother's own child, the milk is not pasteurized. In this study, it refers to feeding premature infants expressed breast milk through a feeding tube or feeding cup.

Preterm infant: Refers to an infant born before 37 weeks gestation (Madiba et al., 2021). In this study, preterm infant, refers to all the infants born before the 37 weeks gestation admitted to the neonatal units utilized in this study.

Neonatal Unit: is hospital unit designated for care of critically ill premature and full-term newborns. It includes all levels of neonatal care comprising pf special care baby units, local neonatal units and neonatal intensive care units (Merriam-Webster dictionary, 2020). In this study neonatal unit refers to a specialised unit where preterm infants are admitted.

Decision making: Is defined as the act or process of deciding something especially with a group of people (Merriam-Webster dictionary, 2020) this study, decision making refers to the mothers of preterm infants' decision on whether to breastfeed or not.

1.8 OVERVIEW OF RESEARCH METHODOLOGY

This section presents an overview of the research methodology. Detailed information will be discussed in chapter 3. A qualitative descriptive design was used in the study to describe factors influencing a mother's decision towards infant feeding when her baby is admitted to a neonatal unit in an academic hospital in Gauteng.

A purposive sample of 18 (n=18) mothers to preterm infants admitted into the three selected neonatal units was selected. Semi- structured interviews with the mothers to preterm infants admitted in the neonatal units were conducted using an interview guide. Thematic analysis was used to analyse the data.

Before commencement of the study, ethical clearance from the Human Research Ethics Committee of University of Witwatersrand was obtained. Permission to conduct the study was obtained from the hospital management. Permission was also obtained from the respective nurse unit managers to conduct the study in the neonatal units. Data was collected using semi-structured interviews using an interview guide.

Data collection was continued until saturation of information was achieved. The interviews were transcribed verbatim. Braun and Clarke's six-phase framework for thematic analysis was used (Braun & Clarke, 2006).

1.9 OUTLINE OF THE STUDY

The study will consist of the following chapters

Chapter One: Overview of the study

Chapter Two: Literature review

Chapter Three: Research design and methods

Chapter Four: Findings of the study

Chapter Five: Summary, main findings, limitations, recommendations and conclusion

1.10 CONCLUSION

This chapter provided the reader with the introduction and background of the study with the intention of identifying a gap that necessitated this research, in a quest to describe factors that influence mother's decision-making process regarding their infant feeding choices in a neonatal unit. An outline of the report is included. The following chapter offers the literature review of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter provides a summary of the available literature that provides context to this study. A more in-depth look into some of the factors which play a role when mothers are faced with the decision to breast milk feed or not to breast milk feed their babies when they are admitted into a neonatal unit, as it is highlighted in literature.

More and more infants are born preterm every year (Mastrup, 2014). Complications related to preterm births have been reported to accounts for 1.1 million neonatal deaths annually around the globe (Wagura et al., 2018), rendering preterm births as the biggest cause of neonatal mortality and the second leading cause of death following pneumonia, in children under the age of 5 years (Teklay et al., 2018). Considering the resource constraints in South Africa, employing cost-effective interventions such as breast milk feeding, is crucial towards improving neonatal outcomes and dramatically reducing the number of neonatal deaths (Nguyen et al., 2018).

The World Health Organisation (WHO) recommends breast milk feeding as the best form of feeding for preterm babies, as it is associated with multiple benefits including but not limited to its protective factor on the underdeveloped gastro-intestinal system of the preterm infant as it contributes to bowel maturation and development of normal flora (Daglas et al., 2020). Although the benefits of exclusive breastfeeding are well documented in research, exclusive breastfeeding remains a rare practice in South Africa (Chakonag, 2020). Exclusive breastfeeding is at 11.6% in infants < 4 months of age, and 8.3% in infants< 6 months of age,

and therefore rates are amongst the lowest in the world compared to the global rate at 38%, as per WHO' s global database of infant and young child feeding rates. (Steyn et al., 2017).

Family and the community at large assume the responsibility to deciding on the diet of children (Nieuwoudt et al., 2019). In a case of preterm infants, the decision to breastfeed or not to breastfeed rests on the woman unless in situations that are limiting. Several external factors that inform one's political, social and religious views make a significant contribution towards the decision-making process (Primo et al., 2016). The concept of self- efficacy is closely related to the likelihood of breastfeeding (Santacruz-Salas et al, 2019).

2.2 THEORETICAL FOUNDATION OF THE STUDY

The rate of preterm births is increasing every year at a global preterm rate of 11% (Salimah, 2020). A global estimate of 130 million babies are born yearly with preterm births estimated to account for 15 million of those born (Wagura et al, 2018). More than 60% of the 15 million preterm births were in Sub-Saharan Africa and Asia (Teklay et al., 2018). Because of, and not limited to, poor feeding and sepsis related to prematurity, the following global estimate of 7000 infants die daily and this accounts for 45,1% of all deaths in children under the age of 5 years (Horwood et al., 2019) demonstrating a greater burden of prematurity. Worldwide, complications of preterm births claim an annual 1.1 million neonatal deaths (Wagura et al., 2018) rendering preterm births as the biggest cause of neonatal mortality and second leading cause of death following pneumonia, in children under the age of 5 years (Teklay et al., 2018).

According to the South African Demographic Health Survey, a recent neonatal mortality rate of 21 per 1000 live births has been reported (Rhoda et al., 2018). Prematurity remains one of the drivers of neonatal deaths in South Africa, with extreme-low-birthweight (wt<1000g) as the most significant contributor to mortality figures. (Rhoda et al., 2018). South Africa is one

of the countries which have committed themselves to the Sustainable Development Goals with goal number three focusing on early childhood development (Sachs, 2012). According to a study by Rhoda et al., (2018), the target to reduce neonatal mortality rate to 12 per 1000 live births is within reach of the Sustainable Development Goals. In order to achieve this goal and to reduce neonatal and child mortality related to preterm births, it is crucial to address the global burden of preterm births (Chawanpainboon et al., 2018).

With the rising rates of preterm births amongst many countries, it is of great importance to address the issues of preterm births in order to realise the target 3.2 of the Sustainable Development Goal number three which aims to eliminate all preventable deaths in children under the age of 5 by year 2030 (Walani, 2020). According to a study by Tshotetsi et al. (2019), while preterm deliveries can be attributed to maternal medical conditions like preeclampsia, malaria, maternal nutrition, syphilis, HIV and anaemia, it is also closely associated with low socio-economic status. Some of the challenges realised within low socio-economic status societies that impact the rate of preterm deliveries include but not limited to access to ante natal care.

A study by Tshotetsi et al. (2019) reported on the importance of antenatal care attendance and the direct proportional association of preterm births and the lack of or minimal attendance of less than five (5) antenatal care visits. Despite the adopted primary health care approach by the South African government in favour of bringing health care services closer and more accessible to communities in rural areas, three main barriers to accessing antenatal care services were highlighted as delays in seeking care, and delays in reaching care and delays in receiving care in literature (Sibiya et al., 2018) thus posing a risk to breastfeeding.

Breastfeeding, among other health topics form an integral part of the health education provided as one of the services of antenatal care. A study by Daglas et al. (2020) reported on the importance of prenatal education and that it seemed to have an effect of breastfeeding duration of preterm infants. A South African study by Sibiya et al. (2018) on access and utilisation of antenatal care services in a rural community of Ethekwini, commented on the unavailability of human resources and its direct proportional impact on the access and utilisation of antenatal care services, that due to the unavailability of adequate staff, mothers are often referred to other facilities for care or booked for the next available dates, this translates to delays in receiving care like prenatal care education on the importance of breastfeeding.

According to literature, the burden of preterm births is increased in countries that are low to middle income due to the resource gap in the public sectors that prove to being a barrier to providing quality care for the preterm infants (Ramoloko et al., 2019; Salima 2020). The study further commented on the resource constraints in South African public health and the domino effect it causes. In order to remedy the burden of preterm births, cost- effective interventions are necessary.

Breastfeeding is one of the most economical interventions proven to improve neonatal outcomes and dramatically reduce the number of neonatal deaths (Nguyen et al., 2018). According to Strong (2013), infant mortality rate was decreased by 21% in infants who were breastfed exclusively. Furthermore, exclusively breastfeeding infants for the first six months could prevent all under 5 years mortality rate by an estimated 13% (Nguyen et al., 2018). According to a study by Nieuwoudt et al. (2019) on exclusive breastfeeding policy, practice and influences in South Africa, globally, “exclusive breastfed infants’ risk of death is 12% that of infants who are not breastfed”. The World Health Organisation (WHO) defines exclusive

breastfeeding as “infants consuming only breast milk, with the exception of oral rehydration solution, drops or syrup” (Nieuwoudt et al., 2019).

Breast milk feeding is the best type of food for the preterm infants, associated with multiple health benefits to both the baby and mother, with even more pronounced benefits for the preterm infants (Mastrup, 2014). It is associated with better cognitive development in childhood and even more so for the preterm infant (Rayfields et al., 2015), evidence of improvement in neurodevelopmental outcomes was realised in preterm neonates who were breastfed compared with their counter parts (Yeung et al., 2020). Breastfeeding reduces the incidence and the severity of prematurity related morbidities such as necrotizing enterocolitis, retinopathy of prematurity and late onset sepsis (Johnson et al., 2013).

The benefits of breast milk feeding are even greater in preterm infants. Breast milk has significant benefits including but not limited to its protective factor on the underdeveloped gastro-intestinal system of the preterm infant as it contributes to bowel maturation and development of normal flora (Daglas et al., 2020). Breast milk is easily digested, promotes gastric emptying and promotes gastrointestinal maturation (Calleni and Pinelli, 2005). This study further reported that preterm infants benefit from breast milk from a neurodevelopmental, psychological as well as immunological perspective, as they receive passive immunity from the breast milk.

In a study conducted by Oras et al. (2016) breastfeeding has been shown to have positive effects on infants’ growth and attachment, as it assisted mothers with finding their parental roles. This study further suggested that mothers were more able to recognise their infants’ feeding cues because of the closeness between them during breastfeeding.

Preterm infants requiring hospitalization may lack the suck, swallow, breathe reflex due to prematurity, which is important in breastfeeding, rendering the infants unable to breastfeed directly from the breast in the initial state. Preterm infants derive many benefits from breast milk feeding through a nasogastric tube before progressing to breastfeeding (Theurich et al., 2021).

The World Health Organisation recommends that breastfeeding be initiated early within the first hour after birth, as early initiation of breastfeeding is associated with multiple benefits such as increasing defence against infection and increasing the survival rate of children (Abie et al., 2019). The same study reported that early initiation of breastfeeding prevents neonatal death by 33%, however, it is rare practice.

Fatigue has been reported by more than 46.4% of women who did not initiate breastfeeding within the first hour as one of the reasons for having not initiated breastfeeding (Abie et al., 2019). The same study reported on cultural beliefs about purity as a significant delaying factor as women preferred waiting until they have taken a bath before they initiated breastfeeding. The medical need of the preterm infant soon after birth could be a contributor to the low initiation breastfeeding rates in neonatal intensive care units. A study by Brockway et al. (2018) highlighted the physical environment and the hospital practices within a neonatal intensive care unit gives rise to difficulties in initiating and maintaining breastfeeding.

The low rates of exclusive breastfeeding in South Africa may be attributed to mix feeding being the most common practice of infant feeding in the country (Chakonag, 2020). Some mothers who opt for exclusive breastfeeding find themselves criticized within the community for depriving their hungry babies of complementary feeds, thus contesting the narrative that

describes breastfeeding as being a ‘good mother’ in the United Kingdom (Nieuwoudt et al., 2019).

The decision to breastfeed or not to breastfeed is linked to a mother’s role and as such it rests upon the woman. However, the decision to breastfeed is often influenced by a number of factors. In a study by Primo et al. (2016), 73.8% of women who decided to breastfeed were motivated by the many health benefits of breast milk towards their preterm infant. In the same study, maternal health benefits and economic benefits of breastfeeding were also highlighted as motivators for deciding to breastfeed.

In a study by Naylor et al. (2020), the decision to breastfeed may be influenced by their preterm babies’ inability to feed directly from the breast due to their medical acuity and the complex character of care given to preterm infants. According to Ahmadi et al. (2016), giving birth to a preterm is stressful to women. The study further suggests that preterm infants are four times more likely to develop medical complications than those born at term and this in turn affects the initiation and/or continuation of breastfeeding (Gianni et al., 2016).

Ineffective suckling, presence of medical devices and mother -infant separation as some of the most frequent barriers to breastfeeding of preterm infants. This interferes with the normal progression off lacto-genesis, rendering even the most motivated mothers challenged with establishing milk supply as they must mechanically express milk due to the lack of normal mechanism of infant suckling (Asztalos, 2018).

The decision to breastfeed or not to breastfeed may also be influenced by the health care setting (hospital’s mission, size and visiting hours) and/or health care professionals (Ragusa et al., 2020). A study by Strong (2013) suggests that health care professionals who are inadequately trained and educated are by far one of the major barriers to breastfeeding. This leads to

“inaccurate teaching, inconsistent provider support and low clinical competence” in helping both mothers and their infants (Strong, 2013). In contrast, another study reported that support from the NICU staff as well as support from the lactation consultants proved valuable in encouraging mothers to breastfeed (Naylo et al., 2020).

According to research, some of the influences in breastfeeding decisions amongst adolescent mothers include social and cultural norms, social support, personal beliefs of being a “good mother “and their infant’s characteristics. (Kanhadilok and McGrath, 2015). In a study by Chakona, (2019) both breastfeeding and complementary feeding are influenced by cultural beliefs of the mothers, households and the community at large with their perceptions and food taboos.

Support or the lack of support from family and friends has been documented as influential towards making the decision toward breastfeeding. A study by Primo et al. (2016), recognised grandmothers as facilitators and fundamental influencers to mothers with regard to their decision towards breastfeeding. In a study by Ragusa et al. (2020), a father’s involvement through psychological support was found effective in ensuring exclusive prolonged breastfeeding. Advocacy in favour of breastfeeding by friends who have had positive experiences with breastfeeding was found to be one of the motivators towards breastfeeding (Primo et al., 2016).

According to a study by Ahmadi et al. (2016) even with the highly valuable role breastfeeding plays with infection and disease prevention, preterm infants are still more prone to being deprived of breastfeeding. Some of the reasons being credited to maternal stress and anxiety relating to the clinical condition of their babies and being separated from each other due to an

admission into a neonatal unit (Gianni et al., 2018). Despite strategies put in place in support and promotion of breastfeeding, the rates remain very low in South Africa.

In a South African study, only 23, 2% of neonates discharged from an academic hospital in Gauteng were exclusively breastfed, the consequences of this would include increased morbidity and mortality (Sepeng et al., 2015). This is in comparison with the global estimate of 36% of infants who were born in 2015, who were exclusively breastfed (Nguyen et al., 2018).

2.3 SUMMARY

Prematurity contributes greatly to child morbidity and mortality posing a greater burden to the nation and the globe at large. Breast milk feeding of preterm infants is an economical intervention aimed at combating the global burden of prematurity. Complying with the prescribed feeding practices by World Health Organisations proves to be challenging among preterm infants, the challenge is credited to many factors from the medical needs of a preterm infant and its limited physical abilities, a mother's social, cultural, religious proclivities among other factors.

CHAPTER THREE

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

A detailed account of the research design and methods which consists of the setting where data collection took place, population and sample, data collection process, data analysis and ethical considerations are highlighted within this chapter.

3.2 PURPOSE OF THE STUDY

The purpose of this research study was to describe factors influencing a mother's decision towards infant feeding when her baby is admitted to a neonatal unit in an academic hospital in Gauteng.

3.3 OBJECTIVE OF THE STUDY

The objective of this study was to explore and describe factors considered in a mother's decision to breastfeed or not to breastfeed her baby when it is admitted to the neonatal unit.

3.4 RESEARCH SETTING

The study was conducted in the neonatal units of a tertiary academic hospital in an urban region in Gauteng province. The units under study comprised a 40 bedded high care premature unit; a 35 bedded lower care premature unit and an 8 bedded Kangaroo Mother Care unit. An average of 90 preterm infants are admitted to these units monthly.

The babies in these units range in weight from 600g to 3500g, they also range in gestational age from 22 weeks to term. Feeding practices range from complete tube feeding, mixed tube

and independent feeding to independent breastfeeding. The average stay is between 14 days and two months depending upon the individual needs of the baby.

Visiting times in these units are from 10am until 19:00 allowing the parents to spend time with their infants. Maternal proximity to the baby influences feeding practices. Lodging is only permitted in an eight (8) bedded cubicle for Kangaroo mother care (KMC). Most mothers travel to the hospital daily and many of them do not live close to the hospital. This has a negative impact on breastfeeding as it is not always possible for mothers to come to the hospital to breastfeed or bring expressed breast milk. The neonatal units involved in this study are not baby mother friendly as the infrastructure in these neonatal units does not permit mothers to sit and express milk at their babies 'bedside, instead there is one expressing room made available for all the mothers. However, the room consist of only chairs, therefore mothers are challenged with the responsibility to buy their own expressing cups and breast pumps. For preterm mothers who are not able to buy expressing cups and breast pumps themselves, tend to terminate breast milk feeding earlier and lean on formular feeding. There is a lactation sister to assist the mothers with breastfeeding related challenges which helps mothers in making the decision regarding their infant feeding.

3.5 RESEARCH DESIGN

Research design is "concerned with transforming research questions into a framework of strategies and methods that will enable the investigator to systematically answer these questions" (Andrew and Halcomb, 2009; Polit and Beck, 2018). A descriptive, qualitative approach was used to investigate factors that influence a mother's decision towards infant feeding when her baby is admitted into a neonatal unit.

Qualitative research allows the researcher to gain greater insight and understanding between themselves and the research participants (Polit and Beck, 2018).

A descriptive approach affords the researcher to stay closer to their data and to the surface of the words and events thus allowing for a straight description of phenomena (Sanndelowski, 2000; Polit and Beck, 2018). A descriptive design was employed as the main aim of the study was to describe factors influencing a mother's decision towards infant feeding when her baby is admitted to a neonatal unit in an academic hospital in Gauteng.

3.6 RESEARCH METHODS

Research methods are defined as a strategy of enquiry, which proceeds from underlying assumptions to research design and data collection. It allows the researcher to collect samples, data and find a solution to the problem at hand (Polit and Beck, 2018). The research methods include the population, sample and sampling procedures, data collection and data analysis.

3.6.1 Population

Population refers to the entire aggregation of the participants in which a researcher is interested (Polit and Beck, 2018). The population in this study included mothers of preterm infants admitted in the selected neonatal units. There were approximately 90 mothers to preterm infants admitted to the neonatal units monthly.

3.6.2 Sample and Sampling Methods

A sample is the subset of the population (Polit and Beck, 2018). In this study, the sample constituted of mothers to preterm infants admitted to the neonatal units.

Sampling refers to the process of selecting the participants to represent the entire population so that inferences about the population can be made (Polit and Beck, 2018). A purposive sampling

method was used in this study. Purposive sampling refers to a selection of information- rich cases that can advise a great deal about the focus of the study (Green, and Thorogood, 2004 as cited in Grove, Burns, and Gray, 2013; Polit and Beck, 2018). In order to acquire a purposive sample, an inclusive criterion was set.

Inclusion criteria:

- Mothers of preterm infants admitted to any of the units described above.
- The infant has been in the hospital for 7 days to avoid exacerbating the stress levels the mother may experience in the few days of her baby's admission.

3.7 DATA COLLECTION

Data collection refers to the gathering of information to address a research problem. In a qualitative study, an interview is one of the most commonly used methods of data collection (Polit and Beck, 2018). Semi-structured interviews were conducted using an interview guide. According to a study by MaGrath, Palmgren, and Liljedahl (2018), the use of an interview guide consisting of numerous predetermined questions is acceptable, and the interviewer may probe further in order to dig deeper into the interviewee's responses. An interview guide **(Annexure 4)** consisting of two sections was used. Section one, which was the socio-demographic component which consisted of six questions.

Section two consisted of six open ended questions with the main focus being on mothers and their decision regarding feeding their infants. Probes were used to encourage the participants to share detailed information regarding specific events as well as to obtain clarity on certain events.

3.7.1 Data collection procedure

After receiving approval to conduct the study from the Research and Postgraduate Committee (**Annexure 7)** and ethical clearance from the Human Research Ethics Committee (HREC) of the University of the Witwatersrand (**Annexure 6**) and approval from the Chief Executive Officer of the hospital (**Annexure 5**), the researcher approached the Unit managers. Permission was sought and obtained from the operating managers of the neonatal units involved for data collection. The following steps were followed:

- A brief presentation of the study including the presentation of the information sheet (**Annexure 1**), the consent form (**Annexure 2**) and the consent form for audio recording (**Annexure 3**) were given to the mothers by the researcher.
- All mothers who met the inclusion criteria were then provided with the information letter, inviting them to participate in the study.
- Two consent forms were signed by the participating mothers before the interview, one for participating in the study and one for audio recording.
- Interviews were conducted on a one-on-one basis in one of the private offices in a neonatal unit, at a time convenient to the participants.

The researcher interviewed eighteen participants. The interviews ranged between twenty and thirty minutes and that was generally sufficient. Data collection ran over a period of 3 months, which was from July to September 2018, until data saturation was reached. Data saturation is defined as a point where new information no longer emerged during the data collection process (Brink et al., 2012; Polit and Beck, 2018).

The interviews were audio recorded and field notes were taken. The first two interviews were conducted as a pilot interview to allow the researcher to clarify questions and her interviewing technique. The results of the pilot study were included in the main study.

3.8 DATA ANALYSIS

Thematic analysis was used to analyse the data. Qualitative data analysis is initiated during the data collection process; both the data collection process and data analysis process occur simultaneously. This allows for flexibility in data collection procedures so that the researcher remains open to new ideas which may emerge (Lawrence and Tar, 2013). It was a "hands on process" (Brink et al., 2012; Polit and Beck, 2018) whereby constant comparison of data collected was done to determine any commonalities or variations. Data analysis was carried out using the following steps:

- Step 1: Familiarisation with the data: this phase initiated with the verbatim transcription of the audio recordings. The researcher engaged with the data through repeated reading and listed interesting ideas.
- Step 2: Coding: entailed finding patterns and producing explanations to categorise data using both deductive and inductive reasoning (Brink et al., 2012).
- Step 3: Searching for themes: identified codes were examined broadly and collated into potential themes. Data that relates to each other was then gathered.
- Step 4: Reviewing the themes: involved further analysing the themes; merging the themes that are similar, re- arranging codes and discarding themes with insufficient supporting data.
- Step 5: Defining and naming themes: entailed refining and identifying the main themes.

- Step 6: Write up: with regard to the data, a narrative was written to communicate the validity of the research analysis.

Data management: interviews were audio recorded to ensure reliability and accuracy during data analysis. Participants were allocated codes for confidentiality. The recordings were only accessed by the researcher and the supervisor. Audio recordings will be stored for two (2) years with publication or for six (6) years without publication. After these time periods, the recordings will be destroyed.

3.9 MEASURE OF TRUSTWORTHINESS

According to a study by Kyngas, Kaariainen, and Elo, (2020) "trustworthiness is the main parameter for appraising the rigor of qualitative research". The following measures were put into consideration to ensure the trustworthiness of the study by Lincoln & Guba (1985) as cited in Brink et al. (2012). Trustworthiness strategies are discussed below:

- Credibility

Credibility is related to validity and "alludes to confidence in the truth of the data and the interpretations thereof" (Brink et al., 2012; Polit and Beck, 2018). In this study, a purposive sample was selected to enhance credibility of the study by ensuring that only mothers to preterm infants admitted in the selected neonatal units participated in the study. The researcher allowed adequate time to engage with the participants to ensure enough data has been gathered. Probes were used to verify information with participants, ensuring that accurate data was being collected. Interviews were audio recorded in order to provide referential adequacy. Data was collected until data saturation was reached.

- Dependability

It refers to the stability of the data over time, that the "provision of evidence such that if it were to be repeated with the same or similar participants in the same or similar context, its findings will be similar" (Brink et al., 2016). In this study, dependability was enhanced through the provision of a detailed description of the methodology within the report as well as the provision of the interview guide for future comparison should the study be replicated in a similar context, to see if the results will be similar. The researcher repeated data analysis to check consistency of the data analysis process.

- Confirmability

It refers to the objectivity of the study. Confirmability is concerned with ensuring that the data obtained, as well as the interpretations of the data reflects the information provided by the participants and not the fuelled by the researcher's imagination (Brink et al., 2016). In this study, the findings of the data are reported truthfully and fairly, member checking with the supervisor was done in favour of ensuring confirmability. All documents used in data analysis were kept safe and will be made available on request, to validate the results of the study. Literature was consulted to substantiate the results.

- Transferability

Transferability refers to the degree to which the results may be generalised or transferred to other settings. Brink et al. (2016) highlighted that generalisation of findings is often not the primary objective of qualitative research, but rather to define observations within a specific identified context. However, in order to enhance transferability in this study, a detailed description of the research setting, and methodology has been provided. An inclusion criterion for sample selection has been included should the study need to be replicated in another setting.

3.10 ETHICAL CONSIDERATIONS

- Approval was obtained from the Post Graduate Research Committee of the University of the Witwatersrand (**Annexure 7**).
- Ethical clearance was obtained from the Human Research Ethics Committee (**Annexure 6**)
- Permission was obtained from the Chief Executive Officer of Charlotte Maxeke Johannesburg Academic Hospital and the matron and the unit managers of the neonatal units under study (**Annexure 5**)
- Participants were invited to participate in the study, within the invitation, an information letter which included the aims of the study, what participation entailed as well as the rights of the participant, a discussion on confidentiality and contact details of the researchers should the participants have any queries (**Annexure 1**)
- The researcher used language that was understandable to the participants by avoiding usage of esoteric jargon when possible and adopting layman's language during the interview.
- To ensure confidentiality and maintain anonymity, all participants were asked not to reveal their names during the interview process, and they were allocated non-identifying letters which were used with each citation from their statements during data analysis.
- Integrity was promoted through being truthful, respectful and fair to participants and their rights, avoided statements that were misleading and adhered to Batho Pele Principles.

- Participants were informed that participation into the study is completely voluntary, that they are free to decline to participate or withdraw from the study at any time should they choose to and that their decision will not in any way interfere with the medical or nursing care given to their babies (**Annexure 1**).
- Contact details of a social worker within the hospital were made available to mothers in the event that their participation caused them stress or anxiety (**Annexure 1**).
- All work was correctly referenced to avoid plagiarism and dishonesty.
- Veracity: be truthful about the findings of the study and to avoid misinterpretation of the findings.

3.11 SUMMARY

This chapter examined the research design and method used in the study. A detailed account of the research process was provided including the steps taken in data collection. Steps followed in ensuring trustworthiness were provided. Ethical considerations were included, as well as the relevant annexures for reference. This is important in informing the reader regarding how the researcher went about collecting data. Details provided will inform future studies should there be a need to replicate the study. The following chapter will report the findings of the study.

CHAPTER FOUR

FINDINGS OF THE STUDY

4.1 INTRODUCTION

This chapter provides the results after data analysis has been completed and will further offer a summary of the findings with the aim to provide a picture of the factors considered in a mother's decision to breastfeed or not to breastfeed her baby when it is admitted in a neonatal unit. Three main themes emerged as 'breast is best - the benefits', 'barriers to breast milk feeding' and 'the role of an institution towards decision making' and are reported in detail within the chapter.

4.2 PARTICIPANTS' DEMOGRAPHIC DATA

Eighteen (18) mothers to preterm babies admitted to a neonatal unit at a tertiary hospital in Gauteng participated. The table below presents the demographic information of the participants (n=18).

Table 4.1: Demographic data of participants.

ITEM	DEMOGRAPHIC VARIABLES	FREQUENCY	PERCENTAGES
1.	*Maternal age*:		
	Less than 30	4	22.2%
	30 to 39	12	**66.7%**
	40 to 49	02	11.1%
	Above 50	-	-
2.	*Ethnic group:*		
	Black	18	100%

3.	*Parity:*		
	first child	3	16.7%
	2 to 3	13	**72.2%**
	4 and more	2	11.1%
4.	*Marital status:*		
	Single	10	**55.6%**
	Married	7	38.9%
	Divorced	1	5.6%
	Widowed	-	
5.	*Highest level of education:*		
	Primary school	1	5.6%
	Secondary school	11	**61.1%**
	Tertiary school	06	33.3%
6.	*Job occupancy:*		
	Employed	9	50%
	Unemployed	9	50%
7.	*Smoking:*		
	No	18	100%
	Yes	-	-

Eighteen (n=18; 100%) mothers to preterm babies participated in the study. 22.2% of which were below the age 30 (n=4), 66.7% between the ages 30 to 39 (n=12), and 11.1% were between the ages 40 to 49 (n=2). All the participants in the study were of an ethnic group black (n=18; 100%). 16.7% of the participants were first time mothers (n=3), 72.2 % of which were 2nd to 3rd time mothers (n=13) and 11.1% were 4th and more times mothers (n=2). 55.6% of the participants were single mothers (n=10), 38.9% of which were married (n=7) and 5.6% of the mothers who participated were divorced (n=1). In terms of education, 5.6% of mothers who took part in the study have primary school as their highest level of education (n=1), 61.1% of the mothers have high school (n=11) and 33.3% have post matric education (n=6). 50% of the

mothers were employed (n=9) and the other 50% were unemployed (n=9). 100% of the mothers who participated in the study were non-smokers (n=18).

4.3 EMERGENT THEMES

This section discusses the important issues which surfaced from the participant's views with respect to the factors influencing a mother's decision to breast milk feed or not to breast milk feed their infant when it's admitted into a neonatal unit. The role of an institution in decision making, barriers to breast milk feeding, the benefits of breast milk feeding as well as personal conviction were the main issues highlighted from the participant's views. Twelve (12) categories of themes were isolated and extracted from the statements made by the participants. These were merged into three main themes which present the essential basis of the study, namely:

- Breast is best – the benefits
- Barriers to breast milk feeding.
- The role of an institution towards decision making.

The above-mentioned themes will be described in more detail using the quotes from the statements made by the participants, in a manner that provides more meaning. **Table 4.2** summarises these themes.

Table 4.2: SUMMARY OF THE FINDINGS AND THEMES.

Expressions from the mothers	Categories of themes	Main themes
#) Mothers expressed that they prefer breastfeeding and others mentioned that they don't like formula milk.	#) Personal preference	#) Breast is best- the benefits.
#) Mothers expressed that they have breastfed before and are happy with it because they know that their baby will grow well and strong.	#) Maternal experience with breastfeeding.	
#) Mothers expressed that breast milk fights bacteria, makes the baby strong and reduces the risk of infections.	#) Health benefits of breast milk to the infant.	
#) Mothers expressed that they can bond with their babies while they feed them.	#) Bonding and attachment.	
#) Mothers expressed that they have been breastfeeding ever since and it is saving them money, while others felt formula milk is expensive.	#) Economic benefits of breastfeeding.	

#) Mothers expressed that they were battling with milk and/ or that their breasts do not produce milk.	#) Concerns about adequate milk production and supply	#) Barriers to breast milk feeding.
#) Mother expressed that she was ill and admitted into an ICU due to kidney injury.	#) Maternal ill health	
#) Mothers expressed that they were advised or told to breastfeed by the health care workers, that breast milk is best and that their baby will grow. #) Other mothers felt confused from receiving different information about the same thing from different health care workers. #) Mothers expressed that they were taught how to express milk for their babies. #) Others felt that they were not adequately supported and that they were "rushed" into making the decision regarding their infant feeding. #) Others felt beat down about not breastfeeding and for giving formula milk to her baby.	#) Information given by the health care workers on the benefits of breastfeeding. #) Contradicting information given by the health care workers #) Teaching and training of mothers. #) Practices in a neonatal unit. #) Attitudes of the health care workers.	#) The role of an institution towards decision making.

THEME ONE: BREAST IS BEST

The benefits of breast milk

This theme holds within it the expressions of the participants on the benefits of breast milk towards their infants, themselves and on the economic scale.

Breastfeeding is the preferred and healthiest choice of infant feeding, associated with multiple health benefits to both the baby and the mother, with even more pronounced benefits to the infants (Mastrup, 2014). Although not all babies within the study were breastfed due to prematurity and other reasons, all mothers agreed that breast milk is best for their babies.

This is what some of them had to say about it.

"…. I prefer breast milk….breast milk is more important for the baby and if you give the baby breast milk, the baby will grow faster" (Participant (Pr).

Another participants expressed that:

"….I don't like formula…I never liked it, I don't know why, even with my first baby, I breastfed…breast milk is much better than the one of formula" (Pv).

Another participant added:

"…m happy about it, because it helps the baby grow fast, the breast milk has all the nutrients that the baby needs, so m happy about it" (Pk)

Some of the mothers' decisions seemed to have been rooted from their past experiences with their older kids. These were some of the expressions made:

"...I have been breastfeeding ever since, even my first two ones and ummm it's saving me money, I don't have to buy formula and then again it is safe for the baby and then the time to wake up in the middle of the night making formula, yeah" (Py)

Another participated also shared that:

"…I know my baby will grow nicely because with my previous baby, I breastfed for one (1) year and two (2) months and she is strong, she is only three (3) years, but she is too strong. The first one I breastfed for four (4) months and the second one for six (6) months, but her, she is different from her siblings. She is too clever and too strong, so I want to do the same for her brother."(Pj)

A participant added:

"…. mother's milk is the best, it has everything…it wasn't my first time with a premature , I know some of the things they were teaching us, like I did kangaroo, I don't know what they call it now but I did it." (Pt)

Breastfeeding reduces the incidence and severity of prematurity related morbidities such as necrotizing enterocolitis, retinopathy of prematurity and late onset of sepsis (Johnson, Patel, Bigger, Engstrom, and Meier, 2013). Some of the mothers acknowledged the reduced risk of infection in preterm babies associated with breast milk. These are some of the views which were shared:

"…breastfeeding is healthy, makes the baby become strong and there is no risk for infection and because the child is a premature, there are too many risks, I don't want to take risks. I do want the child to take breast milk, with formula, there are too many mistakes." (Pj)

Another participant added:

"…okay, I did choose to feed the breast milk because the breast milk is more important to feed the baby, it helps the baby to grow faster, and they can't get infection too much.' (Po)

A participant added:

"…breast milk is the best, it fight bacteria, uhmm, I don't know what to say" (Pn)

Breastfeeding has been shown to have positive effects on infant growth and attachment, as it assists mothers with finding their parental role. (Oras, Blomqvist, Nyqvist, Gradin, Ruberstsson, Hellstrom-Westas, and Funkquist, 2016). Some of the mothers acknowledged that feeding their babies' breast milk facilitated bonding between themselves and their infant.

These are some of the views shared:

"…breast milk is important, like for example, maybe I give my baby the breast, I can bond with my baby, I feed while looking at my baby." (Pm)

In agreement, another participant added:

"…. breast milk is much better than the one of formula…it connects with the baby, the baby can know you by your smell because he knows the smell of your milk" (Pv)

Some of the mothers mentioned economic reasons as one of the driving factors in their decision making. These were some of the views shared:

"…I see when you breastfeed a kid is much more easier and it's pain, you don't use money, it's yours, you can give it anytime…" (Pq)

In agreement, another participant added:

"…I have been breastfeeding ever since, even my first two ones and uhmm it's saving me money, I don't have to buy formula…" (Py)

A participant added:

"…because the formula is very expensive…" (Pi)

Another one added:

"…mother's milk is the best, that's what I know and it's best to breastfeed, less expenses." (Pl)

THEME 2: BARRIERS TO BREAST MILK FEEDING

This emergent theme "barriers to breast milk feeding" was realised from some of statements made by the mothers when expressing the factors that influenced their decision making to breast milk feed or not breast milk feed their infants while they are admitted in a neonatal unit. Maternal ill health was one of the barriers raised, one participant shared that:

"…was sick because this premature came with caesarean and they said my kidney is not working and that m going to stay in ICU, so I decided to just say, just feed the baby formula, because now m not well and so I can't do anything for the baby, so that's why." (Pp)

Some of the barriers raised were based on delayed milk production and inability to sustain adequate milk production. The following are some of the expressions made by the mothers:

"… I didn't have milk and my baby was hungry, she was crying, so I was battling with milk, the prescribed the pills, they tried to help me, so that is why I finally made the decision to give

formula…I just received a prescription and said I must just buy the pills and that they will help but they took time…" (Pz)

Another participant added:

"…uhmm, so basically, now she only takes pre-nan because my breasts do not produce milk…basically the only reason she is taking pre-nan now is because production of milk from my breast is very low, otherwise she would be on breast milk" (Ph)

A participant expressed that:

"…I breastfed nicely but for now, because the milk doesn't come too much, so m mixing with formula but because the baby was too small and couldn't suck…." (Pj)

THEME 3: THE ROLE OF AN INSTITUTION TOWARDS DECISION MAKING

The emergent theme "the role of an institution towards decision making" came from some of the views expressed by the participants. Some mothers seemed to have considered the information received from the health care workers in making their decision to breast milk feed or not to breast milk feed their infants when they are admitted into a neonatal unit. These are some of the comments that were made:

'…the advice I did receive because if you breastfeed, the baby will grow faster and the baby will be held, you see, when the baby is premature, it is better to breastfeed, they told us it is healthy…" (Px)

Another participant commented that:

"…since I was pregnant, I, they have been advising me to breastfeed since from ward 159 because I was attending clinic here…" (Py)

A participant added:

"… Breast milk is the best, that's what I have been told since I got here…"

Some felt that the assistance received from the institution factored in the type of decision they made with regard to what their babies were being fed. These are what some participants said:

"…they taught us how to express because, I got here at 31 weeks and the milk was still less, so they told us how to express so we can pump faster…" (Pk)

In addition, another participant said:

"…should be given more time to produce milk and not have to make rush decisions about formula…" (Pz)

The participant added:

"…I think more than the pills, they should provide something that helps with the milk or there should be more lessons about how to produce milk…" (Pz)

One of the participants brought up the attitudes of health care practitioners as a factor in making the decision to breast milk feed or not to breast milk feed their infant. The participant expressed that:

"…emotionally nurses will beat you down about breast milk and think you are doing it on purpose and that you want to give your child pre-nan and it's not like that. We read books, I read while I was pregnant about what's important and what's healthy and what's not for the

baby, so they make us feel bad that you are giving your baby pre-nan, so like, the only support I can say they gave me it's just that they gave me milk here at the hospital…" (Ph)

Some of the participants expressed that the information shared or the lack of information received from the institution had an impact in the decision making with regard to their infants' feeding choices. These are some of the comments:

"…they said the child must not mix formula milk with breast milk, but here they said we can mix while 177 said no to mix, they are confusing us, the sisters…they said it's not good to mix, they said if you do formula, then you must do formula milk and if you are doing breast milk, then you must do breast milk for good.." (Pp)

Another participant added:

"…from my own opinion, they should explain what's happening, since it was my first time having a premature baby, they did explain but it was not clear when the child was in 177, we just go there to see the baby and they do not talk to us until I came to KMC…." (Pk)

4.4 SUMMARY

This chapter examined the result of the study in detail. A summary of the result has been included. The emergent themes and the expressed views of the participants were presented in detail and were substantiated by literature. The results revealed that a mother's decision to breastfeed or not to breastfeed her infant is influenced by a number of both internal and external factors. The next chapter will provide a discussion of the results, recommendations, limitations and conclusion of the study.

CHAPTER FIVE

DISCUSSION OF FINDINGS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The final chapter of the report will provide the discussion of the findings, substantiated by literature. The limitations of the study will be included as well as the recommendations made. A conclusion of the entire study will follow.

5.2 DISCUSSION OF THE FINDINGS

The results of the study confirmed that while mothers agreed that breastfeeding is an ideal choice of infant feeding, the decision to breast milk feed or not to breast milk feed their premature infants while they are admitted into a neonatal unit remains complex and that there are many factors that influence that decision. In this study, the benefits of breast milk, barriers to breast milk feeding and the role of an institution toward decision making were the main themes that influenced decision making by mothers regarding their infant feeding.

A significant number of mothers in this study chose exclusive breastfeeding for their preterm infants. Considering that South Africa has a culture of mixed feeding (Chakonag, 2020), the number of exclusively breastfed premature infants in this study is high at 77%. These findings are in contradiction with the findings from a previous study by Steyn (2017) that reported the rates of exclusive breastfeeding in South Africa being among the lowest in the world at 11.6% as per WHO's global database. In agreement, another study conducted in the same hospital as the current study also reported low rates of exclusive breastfeeding at 23.2% (Sepeng, et al., 2015). The mothers in this study were not followed up to evaluate whether exclusive

breastfeeding duration was prolonged and sustained. Therefore, the high rates in this study could be replicating the findings from a previous study by Chakonag (2020) which reported high rates of breastfeeding initiation in the country.

Breast is best- the benefits

The health benefits of exclusive breastfeeding are well documented in literature. Although feeding directly from the breast is not always readily achieved with premature infants, they still derive many nutrients from expressed breast milk. Mothers seemed to have been motivated by the health benefits of breast milk to their premature infants as some of them acknowledged the reduced risk of infection related to breast milk, while others mentioned the highly valuable nutritional value of breast milk. The findings in this study are congruent with the findings from a previous study by Primo et al. (2016) that reported 73,8 % of pregnant women who were motivated to breastfeed for the health benefits of their children.

The economic benefits of breast milk were reported to have influenced some of the mothers towards breastfeeding as they expressed that it saves them money because they do not have to buy formula milk. This could be attributed to the fact that 50 percent of mothers in this study are unemployed. These findings are in line with results from the previous study that documented that due to the fact that families spent less money, the economic benefits of breastfeeding appeared to be motivating towards making the decision regarding their infant feeding (Primo et al., 2016).

For some mothers, personal preference and personal experience guided their decision towards choosing the type of feeding for their preterm infants. Those who expressed preference as an influence in their decision making were in favour of breast milk feeding. A study by Santacruz-Salas et al. (2019) highlighted the importance of a mother's motivation and sense of conviction without external negating influences in initiating and maintaining exclusive breastfeeding.

Seemingly, the decision to breastfeed or not to breastfeed is often made before delivery and is related to their level of self-efficacy, a mother's perception about her capacity to breastfeed can influence the outcome of the decision towards her infant feeding (Santacruz-Salas et al., 2019).

For the mothers who relied on experience in making the decision regarding their infant feeding, were in favour of breastfeeding. Past decisions tend to influence decisions individuals make in the future given a similar situation. According to a previous study by Primo, et al., (2016), mothers who have successfully breastfed in the past were positive and intended on breastfeeding longer and exclusively. However, 83 % of the women in this study are multiparous women, and only 16% of the women spoke about past experience as being a factor in their decision making.

For some mothers, an opportunity to bond with their preterm infant served as a motivator towards making their decision to breastfeed. They expressed that breastfeeding facilitated bonding between themselves and their babies as they were able to look them in the eyes while feeding them. The findings in this study are congruent with the finding from a study by Madiba and Sengane (2021) that reported that mothers took pleasure from breastfeeding as they expressed it as a positive bonding experience. Mothers to premature infants who were not able to feed directly from the breast felt that feeding their babies expressed milk got them engaged.

These findings replicated the findings from a previous study by Calleni et al. (2005) that reported for mothers to critical premature infants, providing breast milk seemed to have been a vital real contribution as they felt empowered and feelings of attachment towards their infants. In the study by Madiba and Salas (2021) mothers expressed dislike towards expressing breast milk as it was seen as a painful and physically exhausting experience. This could potentially be a barrier to exclusive breast milk feeding.

Barriers to breast milk feeding

For some mothers, concerns about adequate milk supply served as an influence towards deciding to formula feed their premature infants. A study by Madiba and Salas (2021) reported that constant concerns by mothers regarding their capacity to produce adequate milk volumes served as a barrier to breastfeeding. In agreement, a study by Primo et al., (2016) reported that a mothers' confidence in her ability to provide breast milk for her baby was more likely to breastfeed.

The role of an institution towards decision making

The advice or information provided about the health benefits of breast milk by the health care professionals was valuable in making the decision to breastfeed or not breastfeed their preterm infants while they are admitted into a neonatal unit. Some mothers expressed that they were motivated by the advice from the health care workers to choose breast milk as the type of feed for their premature infants. These findings replicated those realised in a previous study by Primo, et al., (2016) that stated that mothers' confidence and strength were increased by the information provided in the postnatal unit, to start and maintain breastfeeding. In contradiction, the findings from a study by Ragusa, et al., (2020) reported that even though information on breastfeeding was provided to most of the women within that study, it was found to be ineffective in sustaining breastfeeding. The study further suggested that mothers' attendance to prenatal courses, although alleged to motivate women to breastfeed, was found limited in influencing mothers to breastfeed.

Some women felt confused by the information received from the health care workers, they expressed having been told one thing by some healthcare workers and being told the other by

others regarding feeding her infant. A study by Strong (2013) suggests that health care professionals who are inadequately trained and educated are by far one of the major barriers to breastfeeding. This leads to "inaccurate teaching, inconsistent provider support and low clinical competence" in helping both mothers and their infants (Strong, 2013). Providing complete and accurate information was reported as contributors towards changing practices around breastfeeding (Ragusa et al., 2020). This is especially important amongst women with low levels of education, as they could benefit the most from the information shared by the health care workers.

Some mothers expressed the lack of support from health care workers. A study highlighted

the "intensive, stressful and technical environment in the neonatal unit as a barrier to effective communication between the health care workers and mothers on mothers' involvement in the care of her baby" (Horwood et al., 2019). Although WHO endorsed KMC as a suitable standard for caring for premature infants as it has been proved to promote breastfeeding and maternal engagement (Madiba and Salas, 2021), the neonatal units in this study do not have chairs or beds in the unit to promote KMC. Instead, there are specific visiting hours that mothers are invited and edged to adapt to. (Daglas et al., 2020). According to a study by Naylo, et al. (2020) mothers who received support from the NICU staff were encouraged to breastfeed.

Only 38,9% of women in this study are married and partners were not mentioned as influencers to making the decision to breastfeed or not to breastfeed their infants. A study by Primo et al. (2016) stated that a father's perceptions about what is best for the child may leave the mother feeling encouraged and is more likely to breastfeed.

5.3 SUMMARY OF THE FINDINGS

Mothers to premature infants were influenced by a number of reasons towards choosing the type of feeds for their infants. Although a high percentage of mothers had chosen to breastfeed in this study, the reasons that motivated them towards that decision are different and equally significant. Factors like the benefits of breast milk for their infants, the economic benefits of breastfeeding, the benefits of breastfeeding on bonding and attachment, personal conviction and experience with breastfeeding, concerns about adequate milk supply, and support from the health care workers were instrumental in influencing their decision making process.

5.4 LIMITATIONS

The following limitations were identified:

- The results of the study cannot be generalised as the study took place in one institution and as such the results are not a reflection of the entire country.
- Qualitative studies do not represent the only truth, as the narratives could be interpreted in more ways than one.
- As a novice researcher, one of the challenges I faced was, trying not to bring in my biases into the interview by leading the interviewees. However, during analysis, I realised that I could have probed more in favour of gaining more insight and clarity into the interviewee's responses.
- Reflection: There was improvement regarding the interviewing skills as the interview process proceeded.

5.5 RECOMMENDATIONS

This study examined the factors influencing a mother's decision towards infant feeding when her baby is admitted to a neonatal unit in an academic hospital in Gauteng. Based on these findings, the following recommendations can be made.

Nursing practice: Preterm births are a global burden and their contribution to neonatal mortality rate is remarkable (Chawanpaiboon et al., 2018). Breast milk feeding has been proven to be a lifesaving intervention and as such advocacy for breast milk feeding is important. Paying special attention to and targeted intervention to factors that influence breast milk feeding decisions would be a worthy investment.

Future nursing research: The study was only able to explore and describe factors that influence mother to premature infants' decision regarding their infants' feeding when they are admitted into a neonatal unit. Follow ups were not done to evaluate breastfeeding duration and factors that influence the ability to sustain or terminate breastfeeding in terms of the prescribed six months by WHO. It is essential to assess these factors in the context of preterm infants. Furthermore, this study was only conducted in one institution and it is important to see if the findings of this study can be replicated in a different institution.

5.6 CONCLUSION

The contribution of preterm births towards neonatal mortality rate is significant and the global burden it carries is remarkable. Breast milk feeding of preterm infants has been recommended and proven to substantially combat the burden of preterm births, however, preterm infants are less likely to receive breast milk feeds compared to infants born at term. Utilising a descriptive

qualitative approach, this study found that the decision that rests upon a mother regarding the choice of feeding for her preterm baby when they are admitted to a neonatal unit is a complex endeavour. A woman's self- efficacy is plays an important role when making dietary decisions for her preterm infant, this is influenced by a woman's past experiences, health benefits of breast milk for both herself and her baby, the social context like family, health care professionals and the media, and the physical health care setting. Giving the above-mentioned factors the due attention in favour of improving breast milk feeding rates would be a worthy investment.

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ANNEXURES

ANNEXURE 1: INFORMATION SHEET

Good day

I, Mashoene Mokganyetji Tetelo, am a student in MSC in Child Nursing from the University of Witwatersrand. As part of the degree, I am required to conduct a research study and hereby invite you to participate in the study. The title of my research is ***Factors influencing mothers of premature infants' decision making around infant feeding in a neonatal unit.***

The purpose of the research is to describe factors influencing a mother's decision towards her infant feeding when her baby is admitted to a neonatal unit.

The results of the study will be used to inform health education and policies around breastfeeding which will in turn ensure the quality of nursing practice.

Participation in the study means taking part in an interview, with the sole purpose of obtaining your views on what influenced your choice of your infant feeding. The interview will take approximately 30 minutes. At no point will you be asked your name and there are no known risks associated with participation.

Interviews will be Audio recorded to ensure reliability and accuracy during analysis. Your real name will not be used during the interview; the recordings will only be accessed by the researcher and the supervisor. Audio recordings may be stored for two (2) years with publication or for six (6) years without publication, after these time periods, the recordings will be destroyed.

Participation into the study is completely voluntary, you are free to decline to participate or withdraw from the study any time should you choose to and your decision will not in any way interfere with the medical or nursing care given to your baby. Details to a social worker will be provided for counselling should it be required during the interview. There is no reimbursement for participating in the study.

Below are contact details should you have questions or concerns about the study.

Should there be any concerns or queries concerning this study or wish to report any problems about this study, you may contact the Human Research Ethics Committee (Medical)

Chairperson of the University of the Witwatersrand using the following details: Prof.

Clement Penny, HREC Chairperson, Tel (011) 717 2301, Clement.Penny@wits.ac.za. Secretariat: Ms Zanele Ndlovu, Tel (011) 717 2700, Zanele.Ndlovu@wits.ac.za or Mr

Rhulani Mkasi, Tel (011) 717 2654, Rhulani.Mkasi@wits.ac.za or Mr Lebo Moeng, Tel

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ANNEXURE 2: CONSENT FORM

I,…….confirm that I have been informed about

the study titled ***factors influencing mothers of premature infants' decision making around infant feeding in a neonatal unit.*** by Mashoene M. Tetelo, a MSc student at the University of the Witwatersrand. I have read and fully understand what participation into the study entails as in the information sheet that has been presented to me.

I agree to be interviewed by the researcher, and that the information gathered during the interview can be quoted directly in an anonymous fashion.

I am fully aware that it is my right to withdraw my participation from the study anytime should I wish to without prejudice.

I have been afforded time and opportunity to ask questions and I am willing to participate.

Signature: ……. Date: …….

Witness: ……. Date: …….

ANNEXURE 3: CONSENT TO AUDIO RECORDING

I, …….have been informed that the interview will be taped/ digitally recorded by Mashoene M. Tetelo during the interview session to which I give consent to. I have been made aware of the reasons for the audio recording and that the recordings may be stored for two (2) years with publication and for six (6) years without publication. Recordings will then be destroyed after these time periods.

I hereby consent to the interview being audio recorded in this study.

Participant Signature: ……. Date: …….

Witness: ……. Date: …….

ANNEXURE 4: INTERVIEW GUIDE

- **SOCIO-DEMOGRAPHIC INFORMATION**

- Maternal age
- Ethnic group
- Parity
- Marital status
- Highest level of education
- Job occupancy

- **LONG QUESTIONS**

- Please tell me about how your baby is being fed?
- Please tell me what influenced your choice of feeding?
- What advice have you received regarding feeding your baby?
- What support have you received in that regard?
- How do you feel about the decision that you have made?
- What further assistance do you think mothers in your situation need?

ANNEXURE 5: INSTITUTIONAL APPROVAL

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

CHARLOTTE MAXEKE JOHANNESBURG ACADEMIC HOSPITAL

Enquiries:
Ms. G. Ngwenya
Office of the Nursing Director
Tell: (011): 488-4558
Fax: (011): 488-3786
18 July 2018

Ms Mokganyetji Mashoene
Department of Nursing Education
Faculty of Health Sciences
University of Witwatersrand
NHRD REF: GP_201805_033

Dear. Ms Mokganyetji Mashoene

RE: **"Factors influencing mothers of premature infants decision around infant feeding. Decision making in a neonatal unit"**

Permission is granted for you to conduct the above recruitment activities as described in your request provided:

1. Charlotte Maxeke Johannesburg Academic hospital will not in anyway incur or inherit costs as a result of the said study.
2. Your study shall not disrupt services at the study sites.
3. Strict confidentiality shall be observed at all times.
4. Informed consent shall be solicited from patients participating in your study.

Please liaise with the Head of Department and Unit Manager or Sister in Charge to agree on the dates and time that would suit all parties.

Kindly forward this office with the results of your study on completion of the research.

Supported / ~~not supported~~
Ms. M.M Pule
Nursing Director
Date: 19/7/2018

Approved / ~~not approved~~
Ms. G. Bogoshi
Chief Executive Officer
Date: 20/07/2018

ANNEXURE 6: ETHICAL CLEARANCE

R14/49 Ms M Mashoene

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M180439

NAME:	Ms M Mashoene
DEPARTMENT:	School of Therapeutic Sciences Department of Nursing Education Medical School University
PROJECT TITLE:	Factors Influencing mothers of premature infants decision around infant feeding. Decision making in a neonatal ward
DATE CONSIDERED:	04/05/2018
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Ms C Bracher
APPROVED BY:	Professor CB n , HREC (Medical)
DATE OF APPROVAL:	06/07/2018

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on 3rd floor, Phillip V Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/We fully understand the c on which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compl wi conditions. Shoulc any departure be contemplated from the research protocol as app I/we undertake to bmit to the . The date for re- cert n will be one year the date o . In this case udy was initially reviewed in **April** and will therefore be due in the month of **April** each year. Unreported changes to the application may inv rance given by the HREC (Medical).

18

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

ANNEXURE 7: TITLE APPROVAL

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

12 September 2022
Person No: 365954
TAA

Ms MT Mashoene
PO Box 909
0736
South Africa

Dear Ms Mokganyetji Mashoene

Master of Science in Nursing: Change of title of research

I am pleased to inform you that the following change in the title of your Research Report for the degree of **Master of Science in Nursing** has been approved:

From: **Factors influencing mothers to premature infants decision around infant feeding. Decision making in a neonatal unit**

To: **Factors influencing mothers of premature infants' decision - making around infant feeding in a neonatal unit**

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

ANNEXURE 8: PROOF OF LANGUAGE EDITING

Gill Smithies

Proofreading & Language Editing

Services

59, Lewis Drive, Amanzimtoti, 4126, Kwazulu

Natal

E-mail: moramist@vodamail.co.za

Work Certificate

To	Dr. Ntombifikile Klaas
Address	Wits Dept. of Nursing Education
Date	24/08/2022
Subject	RESEARCH REPORT: FACTORS INFLUENCING MOTHERS OF PREMATURE INFANTS' DECISION – MAKING AROUND INFANT FEEDING IN A NEONATAL UNIT.
Ref	NK/GS/111

I, Gill Smithies, certify that I have proofed the following for language, grammar and style

Factors influencing mothers of premature infants decision – making around infant feeding in a neonatal unit.: Chapters 1 to 5 and Appendices, by T Mashoene, to the standard as required by Wits Dept. of Nursing Education.

Gill Smithies