

**EXPERIENCES OF MOTHERS WITH PREMATURE BABIES ADMITTED IN  
NEONATAL INTENSIVE CARE UNIT AT PRINCESS MARINA HOSPITAL  
GABORONE, BOTSWANA**

**By**

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**A Dissertation submitted to the University of Zambia in partial fulfilment of the  
requirements for the award of the degree of Master of Science in Neonatal Nursing**

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**Declaration**

I, Pepechua Mpofu, declare that this dissertation is solely my work and all the sources that have been used are acknowledged by referencing. I further declare that my dissertation have never been published in any program, be it at diploma or degree level, neither in any university. This dissertation has been done following the dissertation standards of Master of Science in Neonatal Nursing at the University of Zambia.

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### **Abstract**

Preterm birth is a major concern contributing significantly to the world's neonatal mortality. It is stressful and associated with many emotional crisis among mothers of preterm babies. This study explored the experiences of mothers with premature babies admitted to Neonatal Intensive Care Unit (NICU) at Princess Marina Hospital (PMH) in Gaborone, Botswana. The study utilised Qualitative phenomenological descriptive design. Twelve mothers of premature babies were purposively sampled. In-depth interview guide was used to collect data on mothers of preterm babies aged 20-40 years. Audio recorded in-depth interviews were transcribed verbatim, those in Setswana were translated to English. Data was analysed inductively using Braun and Clarke thematic analysis, with the aid of Nvivo` 15 software for codes generation, which were organised into subthemes and themes manually. The study uncovered an intricate journey noticeable by the interchange periods of sadness, disappointment, excitement, fear and anxiety of losing their babies with paucity in emotional and psychological support, inadequate rest and lack of information. Mothers yearned for bonding and interaction with their babies. Misinformation about the baby`s demise and baby swapping compounded their difficult journey. Despite these challenges, mothers of premature babies remained optimistic about their babies, showing the resilience amidst the complexities of prematurity. Mothers expressed divided opinions on their interaction with the NICU staff, variability in hospital care and support and perceived the need for increased resources in NICU. The findings underscores the necessity for a comprehensive interventions to overcome the physical, emotional, psychological and social burdens experienced by mothers of preterm babies, ensuring mothers are informed, quality health care and aid in reducing the neonatal morbidities and mortalities in NICU. Recommendations include review of the NICU guidelines for all mothers of premature babies admitted to NICU to be routinely referred to a psychologist. Integration of holistic approach to address the needs of mothers, babies and their families. Implementation of in service training programs of NICU staff to enhance the provision of educational and emotional support to mothers. Prioritisation and mobilisation of resources in NICU.

**Keywords:** Mothers of premature babies, experiences, Neonatal intensive care Unit, perceptions.

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## TABLE OF CONTENTS

### CONTENTS

Notice Of Copyright.....	II
Declaration .....	III
Abstract .....	IV
Acknowledgements .....	V
List of Abbreviation .....	X
Chapter One .....	1
Introduction and Background.....	1
1.1 Introduction .....	1
1.2 Background .....	1
1.3 Statement of the Problem .....	3
1.4 Justification .....	5
1.5 Aim.....	6
1.6 Research Question.....	6
1.7 Objectives.....	6
1.7.1 General Objective.....	6
1.7.2 Specific Objectives.....	6
1.8 Conceptual Definitions .....	7
1.9 Operational Definitions.....	7
Chapter Two.....	9
Literature Review .....	9
2.1 Introduction .....	9
2.2 Overview Of Experiences Of Mothers With Premature Babies .....	9
2.3 Perceptions of Mothers of Premature Babies while Caring For Their Babies in NICU .....	18
2.4 Conclusion .....	23
Chapter Three.....	24
Methodology .....	24
3.1 Introduction.....	24

3.2 Research Design.....	24
3.3 Research Setting.....	24
3.4 Study Population .....	25
3.4.1 Target Population .....	25
3.4.2 accessible Population .....	25
3.5 Study Sample Size .....	26
3.6 Sampling Technique.....	26
3.7 Inclusion Criteria and Exclusion Criteria.....	27
3.7.1 Inclusion Criteria.....	27
3.7.2 Exclusion Criteria.....	27
3.8 Data Collection Tools .....	27
3.8.1 Trustworthiness .....	28
3.8.1.1.3.2 Bracketing .....	31
3.9 Data Collection Technique.....	34
3.10 Data Processing And Analysis .....	35
3.11 Ethical and Cultural Considerations.....	38
Chapter Four .....	39
Data Analysis and Presentation of Findings .....	39
4.1 Introduction .....	39
4.2 Presentation of Study Findings .....	39
4.2.1 Presentation of the Identified Themes and Subthemes .....	41
4.2.1.1 Theme 1 The Unfriendly NICU Environment .....	46
4.2.1.2 Theme 2 Emotional Turmoil and Resilience In The NICU Environment .....	49
4.2.1.3 Theme 3: A Difficult Preterm Baby Care Journey.....	56
4.2.1.4 Theme 4 Information and Communication Needs in NICU .....	62
4.2.1.5 Theme 5: Support System and Coping Mechanism.....	66
4.2.1.6 Theme 6: Mothers Positive and Negative Perceptions of NICU Environment and Preterm Babies .....	69
4.3 Conclusion of Findings .....	76
Chapter Five .....	78
Discussion of Findings .....	78

5.1 Introduction.....	78
5.2 Demographic Characteristics of Participants .....	78
5.3 Experiences of Mothers of Premature Babies while Caring for their Babies In NICU.....	80
5.4 Perceptions of Mothers of Premature Babies while caring for their Babies in NICU.....	96
5.5 Conclusion .....	101
5.6 Contribution to Body of Knowledge.....	102
5.7 Implications to Nursing.....	103
5.7.1 Nursing Practice .....	103
5.7.2. Nursing Administration.....	104
5.7.3. Nursing Education.....	104
5.7.4. Nursing Research .....	105
5.8. Recommendations .....	106
5.8.1 To Ministry Of Health.....	106
5.8.2 Princess Marina Hospital .....	107
5.8.3 Nursing Institutions In Botswana.....	109
5.8.4 Future Research.....	109
5.8.5 Limitation Of The Study .....	110
5.8.6 Dissemination And Utilisation Of Study Findings .....	111
References .....	112
Appendices .....	122
Appendix A: Participant Information Sheet.....	122
Appendix B: Informed Consent Form .....	125
Appendix C: In-Depth Interview Guide.....	127
Appendix D: Research Budget.....	129
Appendix E: Justification Of Budget .....	130
Appendix F:Ghant Chart/Timeline .....	131
Appendix G: Permission Letters .....	132
Appendix H:Ethics Approval.....	134

**LIST OF TABLES**

Table 1.1: Neonatal deaths due to prematurity in NICU-PMH from year 2020-2023. ....4  
Table 4.1: Demographic and infant biographic data for participants .....39  
Table 4.2: Summary of the identified themes, subthemes, and associated codes .....41

## **LIST OF ABBREVIATION**

KMC-Kangaroo Mother Care

MOH-Ministry of Health

NICU-Neonatal Intensive Care Unit

PMH-Princess Marina Hospital

WHO-World Health Organization

NNU-Neonatal Unit

UNZA-University of Zambia

UNZABREC-University of Zambia Biomedical Research Ethics Committee

IRB-Institutional Review Board

NHRA-National Health Research Authority

HRDC- Health Research Development Committee

SKTMH-Sir Ketumile Masire Teaching Hospital

SVD-Spontaneous Vaginal Delivery

C/S-Cesarean Section

PTB-Preterm Birth

## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND**

#### **1.1 INTRODUCTION**

The birth of a baby is a profound and life-altering event, often filled with anticipation and joy. However, when a baby is born prematurely the experience can be complicated with a mix of emotions (Tatterton and Fisher, 2023). Mothers of premature babies often navigate a unique and overwhelming journey (Gulshan et al., 2023). This study explored the experiences of mothers with premature babies while caring for their babies in Neonatal Intensive Care Unit (NICU) Princess Marina Hospital (PMH) in Gaborone, Botswana. The current chapter dealt with the introduction, background, statement of the problem, justification, research question and objectives. Motivation towards this study stemmed from the researchers experience of working directly with mothers of premature babies in a challenging NICU environment. One particular aspect which struck the researcher deeply, was a concern why mothers of premature babies always missed the feeding hours more especially when they were informed of their babies` illness or when their baby`s condition has changed. Additionally, the investigator observed that the counselling focused predominantly on the baby`s condition and did not cover the emotional and psychological aspect of the mother and often times mothers were referred to a psychologist when their babies have demised. This reinforced the researchers desire to study the experiences of mothers of premature babies while caring for their babies in NICU.

#### **1.2 BACKGROUND**

According to Gulshan et al. (2023), premature birth is a major cause of perinatal and neonatal morbidity and mortality worldwide contributing to 75% of the world`s neonatal mortality. A premature baby is defined as a baby who is born before 37 weeks of gestation (Gulshan et al., 2023). Preterm birth is a potentially stressful, unexpected and multi-problematic event which may come with neonatal respiratory problems, jaundice, hypothermia, feeding problems and infections (Deepak and Ghai, 2022; Pinar and Erbaba,

2020; Cheong et al., 2020).The World Health Organisation (2023) estimates that 13.4 million preterm babies are born every year and about 900,000 premature babies died in 2019 due to the complications of prematurity. According to the World Health Organisation (2024), Sub-Saharan Africa has the highest neonatal mortality rate in the world with 27 deaths per 1000 live births and 30% of global live births, followed by Central and Southern Asia with 21 deaths per 1000 live births. It has been reported by Deepak and Ghai (2022) that worldwide 13% of women who have given birth have a mental health problem, primarily stress. Additionally, Mariano et al.(2022) also reported that mothers with premature babies perceived caring for preterm babies as little stressful.

Gulshan et al.(2023) further reported that mothers of premature babies start their journey of parenthood in the stressful environment of Neonatal Intensive Care Unit (NICU). Babies that are born prematurely are prone to complications and need medical intervention and specific nursing care in the NICU due to their compromised physiological state. Hospitalisation of the neonate is often difficult and extremely stressful for mothers (Russell et al., 2014; Hanson et al., (2020); Amadu et al., 2023). The mothers of preterm babies encounter traumatic experiences when their babies are in NICU due to the treatments, condition and separation affecting their thoughts, feelings, state of mind, relationships and interactions with their premature babies (Gulshan et al.,2023; Deepak and Ghai, 2022; Acharya et al.2021;Hanson, 2020; Steyn, Myburgh and Poggenpoel, 2017). These traumatic experiences can have a long-term effect on the mental health and functioning of the parents of premature babies. Furthermore, the NICU environment creates a barrier for family which is the context within which an intimate link between parents and infant is made (Cecagno et al., 2020; Ncube, Barlow and Mayers, 2016). Family is an important and expressive social entity and the period of conception and birth of children is a remarkable stage in shaping the family context. According to Seefat-van, Nieuwenhuijze and Korstjens 2011, women have been found to explicitly express a need for professional support that addresses their physical and psychological needs as cited in Leahy-Warren (2020).

The hopes and excitement of having a healthy baby are cut short due to the birth of a premature baby (Hanson et al.,2020). As preterm babies are born immature, they are

vulnerable to morbidities and mortality and therefore they require hospitalisation for a significant period in neonatal care units due to their compromised physiological state (Shrestha et al., 2020). A study conducted by Ncube, Barlow and Mayers (2016) at Princess Marina Hospital (PMH), Botswana found that mothers experienced uncertainty, emotional and psychological stress and feared for the survival of their newborn infant. The study also found out that lack of emotional support or counselling by staff and inadequate orientation to the NICU environment increased the mothers' anxiety. Orapeleng et al. (2024) conducted a study at Princess Marina Hospital and it was revealed that mothers of NICU-admitted neonates experienced mental stress and recommended the need to explore the study qualitatively on how to minimise maternal stress. There is limited research on the experiences of mothers with premature babies in the NICU in Botswana. Therefore, this study aimed at exploring the experiences of mothers with premature babies while caring for their babies in the NICU at Princess Marina Hospital.

### **1.3 STATEMENT OF THE PROBLEM**

Preterm birth is a major concern in Botswana contributing significantly to neonatal mortality with a magnitude of 30.7% increase in preterm mortality between 2020-2023 (Neonatal Intensive Care Unit, Princess Marina Hospital Annual reports, 2020-2023). Preterm birth is associated with many emotional crisis and stressful experience in mothers of preterm babies, the hopes and excitement of having a healthy full term baby are shattered once mothers deliver a premature baby (Gulshan et al., 2023). In Botswana the NICU, PMH faces significant issues such as limited space and overcrowding (Gezmu et al., 2021; Nakstad et al., 2021). The Neonatal Intensive Care Unit in PMH, is restrictive due to the vulnerability of a premature baby thus inhibiting family centred care. Mothers have limited time with their preterm babies in NICU, PMH thus hindering adequate kangaroo mother care (KMC) which has been shown to reduce morbidity and mortality in premature babies (Sivanandan and Sankar, 2023; Conde-Agudelo and Diaz-Rossello, 2016; WHO, 2023). Additionally, owing to infection prevention measures in NICU, PMH, only maternal, paternal grandparents and baby's father are allowed access to see the baby hence no active involvement of the father in assisting mothers in KMC. This exacerbates the challenges faced by mothers of premature babies and consequently,

the heightened stress and emotional strain while caring for their babies in NICU. From the researcher`s observation in NICU at PMH, when a baby's condition deteriorates, mothers are often told not to feed or handle their baby, causing distress as they watch other mothers interact with their infants. This emotional strain sometimes results in mothers to skip subsequent feedings out of fear that they might find their baby demised. This compromises the baby`s nutritional status hence posing high risk of morbidity and mortality.

Despite all that the PMH management, Botswana MOH, the health care providers and other stakeholders have done, such as decongesting the ward via devolution of preterm babies to other facilities, breastfeeding support and fumigation to assist the mothers of premature babies and in lowering the mortality rates due to prematurity, the problem still persists as the table below depicts. Table 1.1 illustrates a 30.7% increase in magnitude of deaths between 2020-2023.

**Table 1.1: Neonatal deaths due to prematurity in NICU-PMH from year 2020-2023.**

<b>Year</b>	<b>Total number of mortalities</b>	<b>Mortalities due to Prematurity</b>	<b>Mortalities due to other causes</b>	<b>Mortalities in Percentage</b>
2020	178	76	102	42.7%
2021	150	53	97	35.3%
2022	147	87	60	59.2%
2023	159	117	42	73.4%

**Source: (Admission and discharge register of NICU PMH,2021-2023), Table 1.1: illustrates a 30.7% increase in magnitude of deaths due to prematurity between year 2020-2023 in NICU PMH.**

There is no evidence of this mothers of premature babies in NICU, PMH being referred to a psychologist for necessary psychological and emotional support. Several studies revealed that mothers of premature babies had fear of losing their babies (Martins et al.,2022;Lomotey et al.,2020;Brodsgaard et al.,2019). We do not know what these mothers of premature babies are going through, their experiences, feelings and perceptions. Hence

the need to conduct a comprehensive research that thoroughly explores the experiences of mothers of premature babies whilst caring for their babies in NICU. Understanding the experiences of mothers of premature babies is crucial for provision of effective care by developing effective support systems, add to the body of knowledge to alleviate the burdens mothers of premature babies face, inform policies and practices that can enhance parental involvement in care of the baby, psychological support for mothers of premature babies and improve outcomes for premature babies and their mothers. The above will also aid in developing tailored interventions to reduce preterm mortalities in NICU, PMH.

#### **1.4 JUSTIFICATION**

Despite the evidence of few researches conducted in Botswana and globally on experiences of mothers with premature babies, that mothers are undergoing psychological challenges, currently there is no evidence in NICU, PMH of these mothers with premature babies being seen by a psychologist. Ncube, Barlow and Mayers (2016) conducted a study in NICU, PMH and highlighted the need for counselling, health literacy skills and promotion of KMC inclusion in all health professional curricula. Orapeleng et al. (2024) revealed that mothers of neonates admitted to the NICU, PMH experienced some challenges and were moderately stressed. However, the study did not focus only on premature mothers and recommended further exploration qualitatively to minimise maternal stress when their neonates are admitted to NICU. Letlola-Motana (2012) conducted research in NICU, PMH and focused on experiences of mothers with infants in NICU, regarding the emotional support they received from the nurses. Lomotey et al. (2020) emphasised that understanding the experiences of mothers with preterm babies in a unique environment is imperative to recognise their needs and address them effectively. These studies therefore created gaps that needs to be filled. Therefore the researcher seeks to bridge the gap by thoroughly to exploring the experiences of mothers with premature babies whilst caring for their babies in NICU at PMH.

The few studies conducted in Botswana, were conducted a few years back hence the need to gather up-to-date information as health care practices, societal norms have evolved since previous studies were conducted. The study will contribute to the body of knowledge regarding this issue and assist in developing a proper platform for mothers of premature

babies in NICU PMH to receive psychological services regularly to be psychologically and emotionally stable whilst caring for their babies in NICU. The study findings informed policymakers and stakeholders in the development and implementation of protocols and supportive interventions tailored to support mothers of premature babies whilst caring for their babies in NICU, PMH. Ministry of Health and PMH management will use the evidence based information from the study findings for revision of standard operating procedures and guidelines within the NICU to reflect the needs and experiences of mothers identified in the study. The MOH, PMH management and other stakeholders will use the study findings to develop targeted interventions and implementations aimed at reducing mortalities due to prematurity.

### **1.5 AIM**

To explore the experiences of mothers with premature babies whilst caring for their babies in the NICU, at Princess Marina Hospital.

### **1.6 RESEARCH QUESTION**

What are the experiences of mothers of premature babies whilst caring for their babies in NICU, Princess Marina Hospital?

### **1.7 OBJECTIVES**

#### **1.7.1 General objective**

To explore the experiences and perceptions of mothers of premature babies whilst caring for their babies in NICU, Princess Marina Hospital.

#### **1.7.2 Specific objectives**

- 1) To investigate the experiences of mothers of premature babies whilst caring for their babies in NICU, Princess Marina Hospital.
- 2) To explore mothers' perceptions whilst caring for their babies admitted to the NICU at Princess Marina Hospital.

## **1.8 CONCEPTUAL DEFINITIONS**

### **1) Experience**

Experience is an interaction or transaction between an organism and environment such that a state of satisfaction or equilibrium is achieved (Acampado, 2019).

### **2) Premature baby**

Defined as a baby who is born before 37 weeks of gestation (Gulshan et al., 2023).

### **3) Neonatal Intensive Care Unit (NICU)**

A specialised unit for unwell and preterm newborns (Sharma A, Sharma N and Sharma A, 2023).

### **4) Mother**

A mother is defined as a person with the ability to become pregnant and give birth from a biological point of view by Margaria and Freeman 2012 as cited by Celado 2021.

### **5) Nurse**

The nurse is a person who has completed a program of basic, generalised nursing education and is authorised by the appropriate regulatory authority to practice nursing in their country.

## **1.9 OPERATIONAL DEFINITIONS**

In this study, the following will be defined as;

### **1) Experience**

Events and activities that mothers incur during their stay in NICU and leaves an impression on the mother.

**2) Premature baby**

A neonate being cared for in NICU who was born before full gestation or born too early.

**3) Neonatal Intensive Care Unit (NICU)**

A unit or ward which admits babies who require immediate care and critically ill by the healthcare provider or which admits premature babies.

**4) Mother**

A woman who has given birth to a premature baby who will be currently nursed in the NICU.

**5) Nurse**

A professional caregiver working in the NICU of Princess Marina Hospital, Botswana.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

In this chapter views of different authors and researchers who concluded similar or related studies on the experiences of mothers with premature babies are discussed. It reviews and critiques literature related to the experiences of mothers with premature babies whilst caring for their babies in the NICU. Databases such as Google Scholar, Research for Life, PubMed, Science Direct, Hinary, and Cinahl were used. The literature review for this study focused on global, regional and local publications. The review is guided by the research question; what are the experiences of mothers of premature babies whilst caring for their babies in NICU, aiming at establishing knowledge on the topic and identifying gaps in the existing literature.

#### **2.2 Overview of experiences of mothers with premature babies**

Robinson et al. (2023) conducted a qualitative study, exploring the lived experiences of mothers of extremely preterm infants in the United Kingdom. The study used a semi-structured interview online guide to collect data on 3 mothers as the research participants. The study aimed at exploring the lived experiences of mothers of extremely preterm infants, born alive at less than 28 weeks gestation. The study was analysed using a phenomenological analysis and concluded their study that mothers could benefit from health visitor support owing to traumatic stress associated with extremely premature birth. This concurs with the current study topic which identified a notable gap in providing mothers with premature babies' psychological support while caring for their babies in NICU. Hence, Robinson et al. (2023) conducted their study which proved that indeed mothers need psychological support whilst caring for their babies in NICU and to cope with the NICU environment, for attachment with their babies. This also concurs with Hanson et al.(2020);Apedani et al.(2021);Orapeleng et al.(2024) who also recommended psychological support to mothers of premature babies.

However, the study was conducted only on three mothers of which according to Moser and Korstjens (2018); Speziale, Streubert, and Carpenter (2011) argued that sample sizes

of 10 to 15 are adequate provided participants can provide rich descriptions of the phenomenon being studied and Sandelowski, (1995); Manen, (1990); Giorgi, (1997) who also suggested that sample size of 6-12 participants is sufficient to capture the essence of the phenomenon being studied. Hence the results cannot be generalised to the whole population as the study did not meet the study sample size requirement. The study also conducted online interviews of which it may be difficult for the researcher to see the participant's true facial expression of their experiences during the interview. The study was conducted in a developed country hence difficult to adapt the study findings to developing countries due to different cultures and settings.

Hariati et al. (2023) conducted a qualitative research in Indonesia, on Indonesian mothers of premature infants' experiences in achieving initial motherhood independence in the neonatal unit. The study utilised descriptive phenomenological approach with semi-structured in-depth interviews. The findings revealed that mothers of premature babies experienced emotional crises from denial to feelings of despondency, including being frightened, shocked, between hope and hopelessness, worried, stressed etc. The study findings also revealed that, mothers experienced fluctuating feelings throughout parenting their infants in the neonatal unit. The research findings concurred with Ncube, Barlow and Mayers (2016); Pinar and Erbaba (2020); Shrestha et al. (2020); Letlola-Motana (2012) who showed that mothers of premature babies experienced emotional crises from denial to feelings of despondency, including being frightened, shocked, between hope and hopelessness, worried and stressed.

Hariati et al. (2023) further revealed that the emotional and physical interaction with the babies through early participation in care, promoted mother-infant relationships and initial independence in motherhood. Ncube Barlows and Mayers (2016); Tatterton and Fisher (2023); Amadu et al. (2023); Acharya et al. (2021) reported similar findings. Limitations of the study include; the study was conducted in one national referral hospital in the eastern part of Indonesia and with the largest NICU facility in the region. Limited resources and available space compared with the number of infants at times lead to placement and transfer of infants according to NICU level criteria not being adhered to,

by neonatal staff. Hence, this may have influenced the mother's experiences and affected the results somehow.

Leahy-Warren et al. (2020) on the other hand, conducted a quantitative study in Ireland, using a correlational cross-sectional design on the Experiences of mothers with preterm infants within the first-year post discharge from NICU. The study aimed at investigating the relationships between social support, mother to infant attachment, and depressive symptoms of mothers with preterm infants within the first twelve months' post discharge from the NICU. They collected data using an online survey and found out that women who experienced premature birth, had a prior history of depression, poor infant attachment, emotional and social support and also have a higher level of depressive symptoms. Oral and Karacetin (2024) reported similar findings, that mothers with preterm infants experienced postpartum depression. Similarly, Alinejad-Naeini, Peyrovi and Shoghi (2020) revealed that mothers of preterm babies experienced severe emotional exhaustion after childbirth. Leahy-Warren et al. (2020) further confirmed the need for professionals to encourage mobilisation of maternal formal and informal social supports, the importance of intervening early in addressing maternal emotional well-being and enhancing the developing mother-preterm infant relationship.

Congruently, Amadu et al.(2023); Pinar and Erbaba (2020) recognised the importance of emotional and social support in NICU, encouraged early contact between mothers and their preterm babies during admission to foster bonding. However, Leahy-Warren et al. (2020)'s study was based on the discharged mothers of premature babies and the experiences of mothers of premature babies receiving care in the NICU, were excluded hence may be difficult to compare the results with those of mothers of premature babies receiving care in NICU resulting in bias. Additionally, the study used a quantitative method, a correlational cross-sectional design to measure the experiences of mothers of premature babies and collected data using an online survey. Thus, difficult to observe the facial expressions of mothers with premature babies and capturing the complexity of mothers experiences.

Hanson et al. (2020) conducted a qualitative research in the United Arab Emirates on “Lived Experiences of Mothers with Premature babies in a Neonatal Intensive Care Unit” and found out that mothers and family members were anxious about the survival of their premature babies admitted to NICU. Mothers of premature babies exhibited emotions such as anxiety, anger and sadness, and relied on family support, faith and hope to help them get through the ordeal during the recovery process. Satisfaction of nurses providing competent care and provision of psychological support to the mothers helped them to cope. Hanson et al. (2020) and Lomotey et al. (2020) conducted a qualitative study and found out that when a premature baby is born physical, psychological and social preparation for a baby is interrupted and the mother of the premature baby might feel as if she is excluded on baby`s care. Similarly, Lammertink et al. (2021); Steyn, Myburgh and Poggenpoel, (2017) found out that premature babies often require substantial support because their organs are undeveloped thus affecting the attachment process between the mother and the baby.

Additionally, Hanson et al. (2020) found that psychological state dominates physical stability and needs in a human being especially when they are stressed. This imposes a great challenge for the health care professionals to provide appropriate care and support for the mother to meet this emotional challenge, hence creating the need for health care professionals to provide counselling sessions to mothers who deliver preterm babies against their expectation of full-term babies.

Gulshan et al. (2023) conducted a qualitative research in Pakistan on Exploring the experiences of mothers of premature babies-a phenomenological study. The study used semi-structured face-to-face individual interviews to obtain data from the twelve mothers who were purposively selected. NVIVO-12 aided in organising data. Colaizzi's method of phenomenological analysis was also used, the codes generated from NVIVO-12 were organised into subcategories, categories, sub-themes and themes. The results indicated that the birth and admission of a premature baby to the NICU triggered mothers emotional crisis. They expressed different kinds of emotions depending on the situation they faced, showing both negative and positive emotions influenced by thoughts. Negative feelings

of worry, fear, anger, tension, and depression, were expressed by the participants related to the unknown outcome of the delivery and admission of the baby in NICU. Mothers had feelings of anger which arose from experiences such as loss, disappointment, fear, and worry. Martins et al. (2022); Namusoke et al. (2021); Lomotey et al. (2020); Brodsgaard et al. (2019) reported similar findings, that mothers expressed different types of emotions depending on the situation they were faced with. They exhibited negative and positive emotions.

Gulshan et al. (2023) concluded that the birth of a premature baby is unexpected and causes different emotional reactions to mothers as highlighted above. Interaction with health care professionals and providing support areas such as breastfeeding and KMC empowers the mother's physical and mental well-being. This concurred with the study conducted by Ncube, Barlow and Mayers (2016) and Lomotey et al. (2020) which pointed out the importance of KMC in empowering mothers and promoting their physical and psychological well-being. Ncube, Barlow and Mayers (2016) and Lomotey et al. (2020) study findings may be similar since the studies were conducted in a similar region. The study included mothers with previous experience of having a preterm baby, and this may have an impact on the findings as the mothers may have adapted to the NICU environment and hence may be comfortable in the NICU.

Congruently Lomotey et al. (2020) conducted a qualitative study in Ghana on the Experiences of mothers with preterm babies in a baby unit of a tertiary hospital. A descriptive phenomenological design was used on ten mothers who were purposively sampled. Data was collected using in-depth individual interviews which were transcribed and organised into themes. Their study findings recommended further research to consider the needs of staff in rendering care to preterm babies and support to mothers and ensure holistic service delivery in mothers and baby units. Similarly, Tatterton and Fisher (2023) recommended broad and holistic perspectives, not just clinical needs, for professionals to share clinical information, treatment options and expectations with mothers, enabling a broader understanding of the perceptions and expectations of mothers and needs of their babies. Additionally, Russel (2014) stated that a meta-synthesis of twelve qualitative

studies of mothers' experiences in the NICU indicated that being a mother of a preterm baby in a NICU is a process which is attained through a close relationship with the baby and healthcare staff. Thus emphasising the need for mothers to be seen often by psychologists for counselling during the hospitalisation of preterm babies in NICU. Concurring with their recommendations, the staff need to be inclusive of psychologists who will play a vital role in counselling the mothers with premature babies admitted to NICU. This would enhance a good relationship between the mother and the baby. Leahy-Warren et al. (2020); Oral and Karacetin (2024) revealed that maternal-infant bonding is affected when mothers are stressed.

Namusoke et al. (2021) conducted a qualitative research in Uganda using in-depth interviews and focus group discussions on “Lived experiences of mothers with preterm babies admitted to NICU in a low-resource setting.” The study findings revealed that the NICU had limited infrastructure and skilled healthcare providers to deal with the high number of high-risk small and sick newborns. Salam et al. (2024); Gulshan et al. (2023); Amadu et al. (2023); Deepak & Ghai (2022) asserted that there are several challenges for mothers of preterm babies in developing countries NICUs which are overburdened and with limited facilities. Namusoke et al. (2021) further stated that, mothers needed support, to correctly and hygienically collect breast milk for their preterm babies, but it was hampered by the high patient-to-nurse ratio. Pinar and Erbaba (2020); Ncube, Barlow and Mayers (2016) reported similar findings, that workload of health caring restricted nurses to adequately interact with the mothers. Additionally, Namusoke et al. (2021) revealed lack of support from family members when they delivered a preterm baby.

On the other hand, Hanson et al. (2020) revealed that mothers of premature babies got enough support from their families and the continuous availability of skilled staff at all times which led to a trusted relationship with the parents. Congruently, Ncube, Barlows and Mayers (2016); Shrestha et al. (2023) evidenced that, family was the main source of support to cope in NICU. The strengths of Namusoke`s study is that, it involved female researchers in data collection to ease the sharing of experiences by participants and one of

the researchers was a clinician in the same hospital. Further probing where necessary was done to clarify understanding of the experiences.

Amadu et al. (2023) conducted qualitative research in Ghana on the Importance of the Social Support System in Maternal Experiences of the Pediatric Department in the Northern Regional Hospital. The study used a descriptive design and collected data using face-to-face interviews using a semi-structured interview guide. Purposive sampling was used to recruit participants for the study and Fifteen mothers of premature babies were interviewed. The study findings revealed that the pediatric atmosphere at first exacerbated mothers of premature baby`s worry and anxiety due to wary of the NICU environment setup. Concurrently, Ncube, Barlow and Mayers (2016); Hanson et al. (2020) echoed similar findings that the unfamiliar, intimidating environment of the neonatal unit exacerbated mothers` anxieties and the equipments, where babies were surrounded with machines, tubes in mouth, nose and other gadgets. Mothers had difficulty in interacting with their infants, nonetheless with support from the staff, other mothers and their families, they developed an emotional connection with their babies. Ncube Barlows and Mayers (2016); Tatterton and Fisher (2023); Acharya et al (2021) reported similar findings.

Amadu et al. (2023) concluded that, meeting specific maternal requirements through counselling and welcoming moms to the newborn unit should be part of the planning of neonatal care to encourage early contact between mothers and their preterm babies and to foster bonding. Hariati et al.(2023) indicated that interaction of mothers with their preterm babies through early participation in care, promoted bonding. The provision of education and demonstration to mothers of premature babies on how to care for their preterm baby leads to mothers being confident (Amadu et al., 2023; Apedani et al., 2021; Letlola-Motana, 2012).

Apedani et al. (2021) in Ghana, utilised the explorative descriptive qualitative case study design. In-depth interviews were conducted on 16 mothers of preterm babies whom were purposively sampled. A semi-structured interview guide was used and found out that inter-professional support services were offered by nurses and doctors only. The support

services were not adequately available to meet the mother`s needs and expressed the need for professional counsellors due to unmet psychological needs by the NICU staff. Spellman (2019) highlighted the need for trained psychologists and counsellors for psychological services as nurses and doctors alone could not meet the needs of mothers of preterm babies in NICU. Similarly, Robinson et al. (2023); Hanson et al. (2020) highlighted the need for psychological support to mothers with premature babies in NICU. This shows the need for counselling of mothers of premature babies whilst their babies are receiving care in NICU hence relevant to the current study.

Additionally, Namusoke et al. (2021) also found out that there was a communication gap between mothers and nurses and the perceived insensitivity of nurses. Some mothers complained that when they would want to talk to the nurses regarding their baby`s care, the nurses would ignore them. Correspondingly, Hariati et al. (2023); Lomotey et al. (2020); Pinar and Erbaba. (2020) and Shrestha et al.(2020) revealed the communication gap between mothers in NICU and the nurses. Namusoke et al. (2021) failed to mention the referral of mothers to psychologists despite mentioning that the NICU environment exacerbated the mother's worry and anxiety. Mothers of premature babies were counselled by nurses who portrayed disparities in interaction with some few mothers. As a result, the current study intends to fill this gap.

Ncube, Barlow and Mayers (2016) conducted a qualitative study on ‘A life uncertain – My baby’s vulnerability: Mothers’ lived experience of connection with their preterm infants in a Botswana neonatal intensive care unit’. The study used explorative design which was contextual in nature, to conduct the study in a phenomenological approach. In-depth interviews were conducted twice with eight mothers of hospitalised preterm babies. The results showed that mothers experienced uncertainty, emotional and psychological stress and feared for the survival of their newborn infant. Martins et al. (2022); Lomotey et al. (2020); Brodsgaard et al. (2019) reported similar findings. Ncube, Barlow and Mayers (2016) further revealed the lack of emotional support or counselling by staff and inadequate orientation to the NICU environment which increased the mothers’ anxiety. Similarly, Cecagno et al. (2020); Steyn, Myburgh and Poggenpoel (2017) reported lack of

emotional support. Cecagno et al. (2020) also reported lack of information prior visitation in the NICU by health care professionals.

Ncube, Barlow and Mayers (2016), further revealed that the unexpected birth of a preterm infant was traumatic to mothers of premature babies, they experienced uncertainty and were emotional since nurses in the NICU were often busy due to shortage of personnel and also mothers have limited time in the unit to ask questions. Gulshan et al. (2023); Deepak and Ghai (2022); Acharya et al. (2021); Namusoke et al. (2021); Pinar and Erbaba (2020) Hanson et al. (2020); Steyn, Myburgh and Poggenpoel (2017) reported similar findings. Ncube, Barlow and Mayers (2016) also revealed that mothers were shocked by the delivery of a preterm baby since they did not expect to deliver too soon. Congruently, Gulshan et al. (2023); Amadu et al. (2023); Lomotey et al. (2020); Cecagno et al. (2020); Tatterton and Fisher (2023); Alinejad-Naeini, Peyrovi and Shoghi (2020) revealed that, the hopes and excitement of having a healthy full term baby are shattered once mothers` deliver a premature baby because it was unexpected. The neonatal environment increased the mothers` fear, anxiety and delayed development of a relationship between mothers and their babies.

In contrast, Acharya et al. (2021) found out that, support from staff, other mothers in the neonatal unit enabled the mothers to overcome their fear and eventually develop an emotional connection with their babies. Congruently, Gulshan et al. (2023); Lomotey et al. (2020); Apedani et al. (2021); Shrestha et al. (2023) disclosed that the mothers` interaction with healthcare professionals and providing support areas empowered the mother's physical and mental well-being consequently enabling the mothers to care of their babies in NICU. Ncube, Barlow and Mayers (2016) recommended that counselling, health literacy skills and promotion of KMC should be included in all health professional curricula. The study failed to develop a proper platform for mothers of premature babies undergoing emotional and psychological stress to be seen by a psychologist. Spellman (2019); Orapeleng et al. (2024) highlighted the need for trained psychologists and counsellors in the provision of psychological services as nurses and doctors alone could not meet the needs of mothers of preterm babies in NICU.

Letlola-Motana (2012) conducted qualitative research at PMH in Botswana using explorative, descriptive, contextual qualitative design to unravel the experiences of mothers with infants in the NICU, regarding the emotional support they received from the nurses. Eight mothers were purposively sampled and interviewed using semi-structured questions. The study findings revealed that mothers did receive counselling. Martin et al. (2022); Acharya et al. (2021); Shreshtha et al. (2020) also documented similar findings, that mothers of premature babies received emotional support. Letlola-Motana (2012) concluded that the health of the mother, preterm infant and family is a critical aspect of maternal and child health care and recommended counselling and orientation for mothers of premature babies upon arrival in NICU and informing mothers about the reasons for admission of the baby, the treatment options and plan as appropriate. This is congruent to Ncube, Barlow and Mayers (2016) who recommended counselling, health literacy skills and orientation package for mothers of premature babies. Orapeleng et al. (2024) emphasised the importance of psychologist and counsellors in NICU, PMH. Similarly, Apedani et al. (2021); Cecagno et al. (2020) recommended that organised support services by a multidisciplinary team of health professionals is required to meet the needs of mothers with preterm babies in the NICU. Letlola-Motana (2012) included only, educated mothers in the study and uneducated mothers were excluded hence results cannot be generalised to the whole population.

### **2.3 Perceptions of mothers of premature babies while caring for their babies in NICU**

Martin et al. (2022) conducted a study on Nursing mothers' perception when experiencing prematurity in the NICU of a public hospital in Distrito Federal, Brazil. A qualitative research study which comprised of eleven nursing mothers and twenty four medical records of mothers and their babies, inclusive of twins. The quantitative and qualitative data was analysed using descriptive statistics and content analysis. The study findings revealed that mothers of premature babies had a negative perception towards the NICU environment and perceived the NICU environment to be tiring, a sense of self-imprisonment and relegation to self-care given that their presence is a priority for the

recovery of their infants. Mothers expressed impaired self-care and daily fatigue due to constant milking for their newborns affecting rest as the challenges of hospital stay.

The study findings are consistent with Alinejad-Naeini, Peyrovi and Shoghi (2020) who conducted a qualitative study in Iran, on Emotional disorganisation, and prominent experiences of Iran mothers with preterm neonates during their stay in NICU using grounded theory. They found out that mothers of premature babies had unpleasant moments that were difficult, hopeless, unbelievable some few months post-delivery of their babies. They revolted and cried when reflecting on the experience of their first visit to the NICU. On the contrary, Martins et al. (2020) revealed that mothers of premature babies underwent follow-up with a psychologist. Some of the mothers highlighted the importance of searching for psychological support, anguish relief and better preparation to deal with the situation. They also mentioned that the daily guidelines provided by the professionals helped them improve their emotional aspects. Congruently, Cecagno et al. 2020; Lomotey et al., 2020; Acharya et al. 2021 reported a positive perception of mothers of premature babies towards care and support from healthcare professionals in NICU. Martins et al. (2020) further stated that participants' reports hindered the verification of analytical associations and generalisations for possible replications of the results. Therefore, Martins et al. (2020) used different methodology and research approach hence the results cannot be generalised.

Salam et al. (2024) conducted a study on the Perception and experiences of adolescent mothers and communities in caring for their preterm babies in Bangladesh. Data was collected using in-depth interviews and focus group discussions. Their study findings were perceptions and understanding of premature babies and care-seeking for illnesses. Findings highlighted poor understanding of preterm birth (PTB), with notable gaps in care and care-seeking practices among adult mothers and the community, inclusive of adolescent mothers. The study concluded that the merging of factors comprising local knowledge, sociocultural practices and health systems challenges impact awareness and care for preterm babies among adolescents, adult mothers and the community. However,

the study focused more on adolescent mothers and the community hence difficult to generalise the findings.

Cecagno et al. (2020) conducted a qualitative study using descriptive exploratory design in Southern Brazil on the experience in NICU: mothers' point of view. Data was collected using semi-structured interviews and analysed using operative analysis which emerged themes. Perceptions regarding the care of preterm babies in NICU was one of the themes which emerged and reports showed that mothers had a positive perception towards the care of their premature babies and the health care professional relationship as they were provided with the support during their lowest times. Congruently, Lomotey et al. (2020) also found positive perception of mothers on the support offered by nurses, despite young mothers having negative perception towards nurses. Regarding the perceptions of mothers on the care received by the team in the NICU, mothers felt cared for and acknowledged the team's effort in caring for their babies. The care provided to their babies was identified in the provision of information about the condition of their hospitalised babies and their health (Lomotey et al., 2020).

Contrarily, Cecagno et al. (2020) revealed that mothers, they gave a unanimous answer on the Perception regarding the information on the support services available to them as they reported to only knew the social worker and mostly needed someone to comfort them in times of distress. Thus a notable gap exists, as mothers are not counselled by the psychologists but rather by a social worker. Hence one of the gaps identified by the current study's research. Additionally, Cecagno et al., (2020) also found out that the clinical status of the baby was not clarified to the mothers of premature babies before their first visit to NICU, hence this lack of information about the unknown environment of NICU and the instability of the newborn lead to anguish and the perception of uncertainty in life. The results concur with Shrestha et al. (2020) who conducted a qualitative study in Nepal on the experience of mothers having preterm newborns in NICU and found out that, fear and anxiety were the major emotions of mothers during newborn admission to NICU. Mothers' anxiety was related to their perception of serious condition and uncertainty of newborns' survival. Additionally, the study found out that mothers had a perception of

serious problems and perceived that their newborns required extra therapies and intervention as mothers expressed that their babies had difficulty breathing and many other problems. The limitations of the study included the small sample size of 5 and according to Moser and Korstjens (2018); Speziale, Streubert, and Carpenter (2011), sample sizes of 10 to 15 are adequate provided participants can provide rich descriptions of the phenomenon. Sandelowski, (1995); Giorgi, (1997), also suggested that a sample size of 6-12. As a result, they recommended a larger sample size to obtain a broader view of the maternal point of view.

Alinejad-Naeini, Peyrovi and Shoghi (2020) further found out that mothers had initial deep disappointments and undefined futures as they had feelings of hopelessness during admission to the NICU. Mothers of premature babies were hopeless of their babies surviving. Thus mothers of premature babies had a negative perception towards their premature babies and the NICU environment. Similarly, Buys and Gerber (2021) also found out that mothers perceived feelings of shock or disbelief at their baby's low birth weight, and small size at birth which resulted in the mother's distress and mothers had a negative perception towards the NICU environment. Alinejad-Naeini, Peyrovi and Shoghi (2020) recommended the NICU staff to not only focus on the medical aspect of the baby but also the parents' psychosocial needs. This concurs with the current study which aims to raise awareness on the need for psychological services to mothers of premature babies whilst caring for their babies in NICU. The study limitations include the small sample size. The study was conducted in the NICU of Iran and consequently may have limited transferability (Alinejad-Naeini, Peyrovi and Shoghi, 2020).

Lomotey et al. (2020) conducted a qualitative study in Ghana and the findings revealed that mothers were pleased with the availability of staff and care provided to their babies by health workers. Similarly, Hanson et al. (2020); Pinar and Erbaba (2020); Acharya et al (2020) indicated that mothers of premature babies were satisfied with the care provided by health care providers and availability of competent staff. On information sharing, Lomotey et al. (2020) pointed out that despite mothers being informed of procedures performed on their babies, the procedures were not always explained. This resulted in

mothers being anxious especially when they assumed the procedures were done because their babies were deteriorating. Mothers had different perceptions towards nurses, some mothers described the nurse-mother relationship as cordial whilst others reported it as unfriendly. Young mothers compared with older mothers complained of the unfriendly attitude of some nurses. Cecagno et al. (2020); Amadu et al. (2023); Shrestha et al. (2020) reported similar findings. According to Lomotey et al. (2020), the provision of residential accommodation by the hospital created a positive perception for the mothers of premature babies. They supported and encouraged each other and shared similar experiences which motivated other mothers to do procedures such as KMC. Hanson et al. (2020) appeared to be variant to be above study findings.

Contrarily, Buys and Gerber (2021) conducted a qualitative study in South Africa, on maternal experiences of caring for preterm babies in a vulnerable population. A cross-sectional design that was explorative and contextual in nature was used. In-depth interviews were used to collect data on 15 mothers and results were thematically analysed. The findings of the study generated one of the themes being, mothers perceived their premature babies to be medically vulnerable and were concerned about their baby's wellbeing due to seeing their babies in incubators surrounded by loud monitors and tubes resulting in distress. Similarly, Shrestha et al. (2020); Namusoke et al. (2021) concurred that mothers of preterm babies perceived their babies to be vulnerable and required extra therapies and interventions. According to Green and Solnit 1964, as mentioned in Buys and Geber 2021, parental perception of infant vulnerability reflects a parent's beliefs or attitude regarding their child's susceptibility to illness or harm and has been correlated with high levels of maternal anxiety at discharge. This is known to be influenced by the infant's appearance and changes in parenting roles affecting the interaction between parents and infants. The limitations of their study was that it had a smaller sample size and the study was done in rural areas hence cannot be generalised to urban areas.

## **2.4 Conclusion**

Several studies have been conducted on the experiences of mothers with premature babies while caring for their babies. However, these studies have been conducted mostly in developed countries and other parts of Africa. The literature reviewed found few old studies conducted in Botswana, on the experiences of mothers with premature babies. The studies failed to elucidate whether mothers were counselled by psychologists rather they only indicated that they were counselled by nurses and doctors and also discussions with other mothers assisted them to relieve their anxiety. The studies also failed to address the issue of how often should the mothers be referred to psychologists for counselling, despite the evidence by several researchers in the findings above, that hospitalisation of mothers lead to fear and anxiety. Additionally, several studies highlighted that mothers of premature babies had negative perceptions towards premature babies and the NICU environment, disappointments and undefined futures as they had feelings of hopelessness during admission to NICU. In the context of PMH, mothers are only referred to a psychologist when their babies have demised, with no record of how often should they be referred to a psychologist. On admission they are only counselled by doctors and nurses as illustrated by several literatures above. The counselling focuses more on the medical aspect of the baby, it does not cover the experiences of the mother. The study's relevance to clinical practice is to raise awareness of the need for psychological services, for mothers of premature babies during their journey in the NICU. The current study is congruent with other studies conducted which impelled the need for often counselling to mothers of premature babies whilst caring for their babies in the NICU. It is therefore necessary to conduct the study to fill the gap and generate new knowledge.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter presents the research design, setting, sampling, sampling techniques, research instrument, data gathering procedure and data analysis, data management and storage. A detailed discussion of the research process was conducted to address the research questions and objectives of this research study. The chapter also explained how the ethical issues was accomplished.

#### **3.2 Research Design**

The study utilised a qualitative, phenomenological descriptive design. Qualitative research is a form of socially responsive action that stresses how people interpret and make sense of their experiences to understand the social reality of individuals to gain a deeper understanding of the surrounding circumstances (Muzari, Shava and Shonhiwa, 2022). Phenomenological study is an explanatory method that comprehensively explains what it means to be human, by studying the lived experiences of individuals or groups to build concepts (Creswell, 2013; Sarfo et al., 2021). Sarfo et al. (2021) further assert that phenomenological research describes the shared meaning of multiple people's lived experiences with a topic or phenomenon. It recognizes the underlying logic of human experiences and communicates that logic accurately. Therefore the research design befitted the current study to explore the experiences of mothers of premature babies whilst caring for their babies in NICU, PMH. Most literature reviewed, which conducted a similar study and in the same region used the same research design hence suitable for the current study.

#### **3.3 Research Setting**

The study was conducted in the NICU at Princess Marina Hospital, Gaborone, Botswana. PMH is a tertiary and government-funded hospital and also a referral hospital with 530 inpatient beds. Gaborone is the capital city of Botswana situated in south-eastern Botswana (Kent and Ikgopoleng, 2011). The population of Gaborone is 429,293 in the population census 2022 (Statistics Botswana, 2022). Neonatal intensive care unit in PMH

has a 39-bed capacity which can admit up to 70 babies. It comprises of 5 cubicles; fully with 10 beds, Fattening 7 beds, NICU 6 beds, the premature cubicle (high care) has 12 beds and isolation 4 beds with a monthly average of 110 admissions which is more than the bed capacity for the unit. All cubicles receive neonates based on their conditions, NICU admits critically ill neonates requiring close monitoring, mechanical ventilation for respiratory support and babies requiring phototherapy. Services offered in NICU also include daily weighing of neonates and referral to a nutritionist, KMC, transitional care for managing infections, devolution to other facilities for weight gain and decongesting the ward, health education and counselling, three hourly feeding of neonates, breastfeeding promotion, yearly prematurity day commemoration, NNU clinic on follow up care for discharged neonates. Kangaroo mother care unit is also part of the NICU where stable neonates on room air weighing 1.4kg and above and feeding by cup are transferred for weight gain until they are 1.8kg and discharged home. NICU admit neonates from various facilities across the country. Owing to a shortage of staff, the ratio of neonates to nursing officers is one nursing officer per cubicle except in intensive care where babies are ventilated. As a result of the above, the research site is suitable for the current study.

### **3.4 Study Population**

Mothers of premature babies whom their babies were admitted to NICU, PMH and they have never had a premature baby before.

#### **3.4.1 Target Population**

The target population included all mothers who delivered live premature babies at less than 37 weeks gestation and admitted to NICU, PMH for the first time.

#### **3.4.2 Accessible Population**

According to Asiamah, Mensah and Oteng-Abayie (2017), the accessible population is composed of members of the target population who are willing to participate and will be available at the time of the study. The accessible population included mothers of premature babies who were willing to participate in research and available at the time of study.

### **3.5 Study Sample Size**

Study sample size is determined by data saturation (Schreier, 2018; Mthuli, Ruffin and Singh, 2021; Aguboshim, 2021). Therefore the exact number of study sample size was determined by data saturation. Data saturation is reached when additional input from new participants no longer generates new information, or themes or continues to impact new understanding of the study topic (Aguboshim, 2021). Data saturation was reached at the tenth participant, as no new information was generated. Thus, two additional interviews were conducted to confirm the data saturation. Thus, a sample of 12 mothers with preterm babies was used in this study. Sarfo et al. (2021), recommended that the quality of data saturation is verified by conducting additional interviews with qualitative researchers. However, Sandelowski (1995); Giorgi (1997) suggests that a sample size of 6-12 participants is sufficient to capture the essence of the phenomenon being studied. Moser and Korstjens, (2018); Speziale, Streubert, and Carpenter, (2011) argued that sample sizes of 10 to 15 are adequate provided participants can provide rich descriptions of the phenomenon.

### **3.6 Sampling Technique**

According to Islam and Aldaihani (2022), sampling is a process of selecting the objects, participants, or respondents for your study. The participant's respondents or objects can be questioned, surveyed, or observed (Islam and Aldaihani, 2022). On the other hand, Sampling refers to a process of selecting participants who are representative of entire target populations in which particular researchers are interested to obtain relevant and detailed information about particular research topics (Chivanga and Monyai, 2021). Purposive sampling is used to select participants based on the researchers' judgement about what potential participants will be most informative (Morse, 2018; Knott et al., 2022; Campbell et al., 2020).

Purposive sampling was used to select mothers of preterm babies whose babies were hospitalised from admission and stayed 5 days or more until discharge and met the inclusion criteria. Mothers were recruited after informed consent. Mothers of premature babies were purposively sampled and chosen based on judgement of the extent to which the potential participant met the inclusion criteria to describe their experiences whilst caring for their premature babies in NICU. Eligible participants were selected with the

support of nurses, doctors, paediatric residents, paediatric doctors, neonatologist in NICU, PMH and were invited to participate in the study by assisting in identifying the mothers of premature babies admitted to NICU.

According to Campbell et al.(2020), purposive sampling strategies are advantageous over random sampling as they ensure that specific participants that could be included are part of the final sample in the research study. A purposive sampling strategy was chosen as the researcher assumed that given the aims and objectives of the study, different mothers of premature babies held different and important views about the ideas and issues in question and therefore needed to be included in the sample. Purposive sampling was chosen as the researcher used their judgement based on the inclusion criteria as explained below and purpose of research to choose the participants that provided beneficial information relevant to the objectives.

### **3.7 Inclusion Criteria and Exclusion Criteria**

#### **3.7.1 Inclusion Criteria**

Mothers of premature babies who stayed 5 days or more in the NICU, nursing their premature babies and had their premature baby for the first time. Mothers whom their preterm infant met the following criteria and have consented:

- Birth weight > 800 g
- Gestational age  $\geq$  28 weeks and less than < 37 weeks at birth

#### **3.7.2 Exclusion Criteria**

Sick mothers of premature babies. Mothers of preterm babies who haven't consented.

### **3.8 Data Collection Tools**

The study utilised in-depth interview guide which was developed by the researcher. According to Roller (2020) in-depth interview guide include the interviewer–interviewee relationship, the interview itself, and the analytical component of the process. The relative closeness of the interviewer–interviewee relationship that is developed in the in-depth interview method potentially increases the credibility of the data by reducing response biases such as distortion in the outcomes due to responses that are considered socially

acceptable and nonresponse, while also increasing question-answer validity i.e. the interviewee's correct interpretation of the interviewer's question. Therefore, the researcher used an in-depth interview guide as a data collection tool. Flexibility of the in depth interview format, allowed the interviewer to tailor the order in which questions were asked, modified the question wording as appropriate, asked follow-up questions to clarify interviewees' responses, and used indirect questions to stimulate subconscious opinions or recall (Roller, 2020). Probing and open-ended questions were used during the in-depth interview.

The emotionally complex nature of the phenomenon being explored resulted in the use of in depth interviews which allowed the researcher to capture the complexities of the mother's experiences and to elaborate extensively on them. It also helped mothers to explain the emotional turmoil and resilience they go through in NICU whilst caring for their preterm babies, how they overcome the challenges etc.

### **3.8.1 Trustworthiness**

According to Nassaji (2020); Stahl and King, (2020); Johnson, Adkin and Chauvin, (2020); Amin et al, (2020), researchers in the field of qualitative research have developed quality standards to judge the rigor of qualitative research, they are defined in terms of trustworthiness of the findings. Four trustworthiness principles i.e. credibility, transferability, dependability and confirmability was used throughout the study which have been accepted and considered important by many qualitative researchers.

#### **3.8.1.1 Credibility**

Credibility in qualitative research concerns the extent to which the research findings and conclusions can be viewed to be believable i.e. it concerns the truthfulness of the findings and the extent to which they reflect the reality of the phenomenon investigated (Nassaji, 2020). To achieve this, the researcher ensured understanding of the research participants, context and processes are as accurate and complete as possible and that the interpretations are inclusive.

#### **3.8.1.1.1 Member checking or participant validation**

The researcher shared the data and interpretations with the mothers of premature babies (research participants) to see if they agree and present the findings to the original participants for them to believe that their experiences were accurately portrayed. The researcher built a relationship i.e. established the rapport with the participants before the interview, to foster trust and ensured that the findings and interpretations were valid. The audio-recorded interviews were transcribed verbatim and the interviewee were allowed to read them for them to confirm if it is really what they meant, to confirm their utterances (Letlola-Motana, M.P. (2012)).The verbatim transcription and the audio recorded interviews were presented to the supervisors to ensure that, what has been written is what she listened to from the recording.

#### **3.8.1.1.2 Triangulation**

Use of multiple data collection methods, sources, explanations or perspectives. Triangulation helps to achieve a more accurate and complete understanding of the issue under investigation, thus increasing the validity and credibility of the findings (Nassaji, 2020; Stahl and King, 2020; Johnson, Adkins and Chauvin, 2020). The researcher reviewed multiple literature sources to understand the phenomenon under study (experiences of mothers of premature babies) and also compared the findings of the study with other relevant studies as elaborated in the discussion chapter.

#### **3.8.1.1.3 Prolonged Engagement**

Involves the researcher in gaining familiarity and understanding of the culture and context surrounding the persons or situations being studied (Johnson, Adkins and Chauvin, 2020). The researcher is a nurse in the NICU, PMH. Thus, has experience of prolonged involvement in the subject matter (Letlola-Motana,2012).Researcher was engaged in the research setting with the mothers of premature babies, assisted the nurses on duty with daily nursing activities such as vital signs and blood sugar monitoring etc. while familiarising herself with the mothers, to build trust with the participants before and during the data collection. This was crucial for mothers to feel comfortable sharing their experiences. During these period, the researcher employed persistent observations,

reflexive self-analysis, often facilitated through daily jottings in research logs (Stahl and King, 2020). Additionally, reading and searching through previous studies and other relevant materials also exposed the researcher to the phenomenon being studied.

#### **3.8.1.1.4 Peer Debriefing**

The involvement of the researcher's colleagues in this study, and the nurses in NICU was ensured for the development of the guidelines. It is hoped that the peers will be able to probe the researcher's biases, exploration of meanings and clarifications regarding methodological or ethical matters (Letlola-Motana, 2012). Doctors in NICU, PMH reviewed the findings to see if they make sense.

#### **3.8.1.1.2 Transferability**

According to Nassaji (2020), transferability concerns the extent to which the researchers' interpretation or conclusions are transferable to other similar contexts. This requires a thorough and rich description of the research activities and assumptions. Since qualitative research is interpretive and the participants are often small in number and not representative of the population, the findings cannot be generalizable in the sense used in quantitative research. Therefore, as noted by Lincoln and Guba (1985), transferability should not be meant for the researcher to make generalizable claims but instead to provide sufficient details that make the transfer possible in case readers wish to do so (Nassaji, 2020). The researcher ensured a thorough and rich description of research activities to ensure transferability.

#### **3.8.1.1.2.1 Thick description**

The researcher ensured a sufficient level of detail about the experiences of mothers of premature babies for others to draw similar conclusions. A complete description of methodology and design including literature review was done to provide more clarity and possibility for anyone interested in making a transfer. The researcher ensured that mothers of premature babies understood the questions asked by repeating the questions if mothers did not hear clearly when conducting the interview, and at the same time the researcher managed to get the data for the research questions.

### **3.8.1.1.3 Dependability**

The study was reported in such a way that others could arrive at similar interpretations if they review the data, enhanced by careful documentation of all the research activities, conclusions or any changes that occurred as the research evolved. Such documentation, can then be reviewed by an outside researcher to examine their accuracy and the extent to which the conclusions are grounded in the data (Nassaji, 2020). The researcher designed an outline of the methodology that was easily followed. Verification of data with the participants for correct interpretation was done, during the interview, participants responses were read to them to confirm if it was indeed what they said, for correct interpretation of data. Data analysis protocol of verbatim transcriptions, and auditing of the research by the supervisors throughout the research project made the study dependable. Colleagues who assisted in identifying the mothers of premature babies, read and reacted to field notes which created a tacit reality for the researcher.

#### **3.8.1.1.3.1 External auditor**

The researcher`s report was availed to the external auditors who were not familiar with the study or the current research, to review the study`s overall logic, coherence and consistency.

#### **3.8.1.1.3.2 Bracketing**

According to Habibullah, Mohammed and Hamza (2023), bracketing is a scientific technique in which a researcher suspends or keeps in suspension his or her predictions, preconceived data, assumptions, hypotheses or previous experiences to view and describe the phenomenon when articulating her perspective, prior opinions, ideas and creating hypotheses. Given the above, the researcher was thorough, direct, honest and exhaustive, avoided prejudice, suspended her assumptions, preconceptions and abeyances when describing the experiences and perceptions of mothers with premature babies. Participant`s viewpoints and experiences, not those of the researcher were used to evaluate the data and derive the conclusions. This aided to minimise the potential influence of the researcher's personal biases on the interpretation of the data. Stahl and King (2020) indicated that bracketing also involves researchers using their bias as it exists in

interpretive repertoire. Researcher`s bias and assumptions are always present in the research act. It is unacceptable to think about owning and discarding the researcher`s bias in research. As a result, the researcher`s bias in the study were not discarded, they were acknowledged in limitations.

#### **3.8.1.1.3.3 Reflexive auditing**

The researcher communicated their implications or inferences in the research and monitored the impact of the researcher`s values and passions as being immersed in the research (Stahl and King, 2020). Reflexive auditing also entails describing the involvement of the researcher in the decisions made in the research processes, which is the utmost characteristic of post-positive research and certainly a basic requirement for an acceptable dissertation (Stahl and King, 2020). As a result, the researcher reflected on their own biases, assumptions and influence on the research process by keeping a reflective journal and memoing throughout the research process (Naeem et al.,2023).

#### **3.8.1.1.3.4 Negative Case Analysis**

Negative case analysis refers to actively seeking out and scrutinizing data that do not fit or support the researcher`s interpretation of the data (Johnson, Adkins and Chauvin, 2020). The researcher searched and examined carefully, data that did not fit the research interpretation.

#### **3.8.1.1.4 Confirmability**

According to Nassaji (2020), confirmability concerns the extent to which others confirm the researcher`s interpretations and conclusions. The researcher`s active role and engagement in the research are accentuated in qualitative research. It also resembles replicability, which concerns the extent to which a study can be reproduced. Thus, the researcher was active and engaged in research. Confirmability was established by describing the data and the findings in such a way that their accuracy can be confirmed by others. One useful strategy is an audit trail (Nassaji, 2020).

#### **3.8.1.1.4.1 Audit Trail**

Nassaji (2020) defines an audit trail as the recording and rationalizing of all the steps taken and the decisions made regarding the data coding and analysis by the researcher. These records become then accessible for any further evaluation and confirmation. The researcher recorded and rationalised all the steps taken and the decisions made regarding the data coding and analysis of the research, and be kept safe for a sequence or trail of events to be followed.

#### **3.8.1.1.4.2 Persistent observation**

Study conclusions must be explicitly grounded in persistent phenomena witnessed during the study, rather than on a coincidence event (Johnson, Adkin and Chauvin, 2020). The more detailed and complete the notes, the more accurate and useful they can be in data analysis or auditing processes for enhancing rigor in the interpretation phase of the study (Johnson, Adkin and Chauvin, 2020). Given the above, persistent observation and field notes were recorded throughout the face-to-face in-depth interview to document non-verbal cues that the audio recorder was unable to pick, such as mother`s facial expressions i.e. such as crying, smiling, sad face etc. reactions. The researcher`s notes were also recorded during and immediately after the observation event. This was done in order to identify and focus in detail on those characteristics, elements that are most relevant to the phenomena being studied and utilised for the transcription and summary of the interviews. Amin et al. (2020) asserted that, if prolonged engagement provides scope, persistent observation provides depth, as it assists the researcher to be attentive to aspects vital to the research question and to focus on them in detail. The study conclusions were grounded in a persistent phenomenon witnessed during the study.

#### **3.8.1.1.5 Pretesting of the data collection tool**

Pretesting of the data collection tool was be done via pilot study on the 06/09/2024, with the main aim of pretesting the interview guide. A pilot study was conducted in NICU, PMH before the main study, by conducting two in-depth interviews with two mothers of premature babies in NICU, PMH who met the sampling criteria. The pilot study lasted for one day and was conducted in a quiet room. The two mothers stayed in hospitals for more

than 5 days, they did not have a preterm baby before, they were both Batswana and able to speak English and Setswana. The babies weights were 1530g and 1390g. Absolutely, this assisted the researcher to anticipate how the interview questions worked, how participants comprehended them and likely to respond. This was imperative in identifying the errors and adjust the tool as needed. However, no changes were done to the tool after pilot study as mothers comprehended and responded well to the questions asked. The questions were repeated in case mothers did not hear clearly. The interviews lasted for 30-60 minutes. Participants and results of the pilot study were not included in the main study results. Pilot test is conducted in any research to ensure that validity of the instrument is achieved (Majid et al., 2017). The importance of conducting the pilot test is to detect any possible errors at the early stage of research which may require adjustments in the instrument (Aung, Razak and Nazry, 2021). Probing and open-ended questions were used during the in depth interview, pretesting the data collection tool.

### **3.9 Data Collection Technique**

The duration for data collection was two weeks and the data collection procedure started by informing mothers about the study. The participants were approached through the help of a nurse in charge who acted as the gatekeeper who informed mothers of premature babies about the study. Mothers signed the consent and agreed on the time which they were comfortable with. Eligible mothers were interviewed between the intervals of feeding the babies. The researcher involved in data collection was a female, fluent in both English and Setswana. Data collection comprised of face to face interviews which was conducted from each participant by using an in-depth interview guide in a separate, quiet room i.e. extension room, a sign of do not disturb interview in progress was put at the door to avoid disturbance. The interviews were conducted in extension room which had enough light and only the mother and the interviewer were present during the interview which lasted approximately 30-60 minutes. Interview started by introduction and establishment of rapport between the researcher and participant. Demographic information was collected from the study participants who have consented before starting the interview.

The interview guide continued by asking the core questions such as “Tell me about your experience while taking care of your baby in NICU”, followed by probing questions, the responses were audio recorded and written down to cater for non-verbal cues. Probing and open-ended questions were used to find out more information and in-depth knowledge of the phenomenon being studied. Mothers of premature babies answered the in-depth interview questions during an interview and were audiotaped. To further understand the phenomenon, any further questions that arose during the interview were pursued for clarification. At the end of the interview mothers were asked if there is anything they would like to add or say and were thanked at the end of the interview. Data collection was continued until no new data was generated. Confidentiality of interviews was assured and audiotaped data of the participants were kept in a safe and secure place. Memo notes were made during and after, to cater for the non-verbal cues of the mothers. Data collection and management was done according to the Consolidated Criteria for Reporting Qualitative Studies (Yadav, 2021).

### **3.10 Data Processing and Analysis**

According to Islam and Aldaihani (2022), qualitative data analysis includes the interpretation, identification and examination of patterns and themes in textual data and determines how these themes and patterns aid in understanding an issue or phenomenon in a deeper way for answering the research questions at hand. Data was analysed using thematic analysis which is widely used by qualitative researchers collecting data using interviews etc. It offered an accessible, theoretically flexible and a systematic approach to analysing qualitative data which enhanced the consistency and replicability of the study findings (Russel, 2014; Naeem et al; 2023). Data analysis was done with the aid of Nvivo` 15 software 2024 which helped in organising data, where codes were generated and inductively organised into themes. Nvivo is used in the process of constructing codes, categories, classifying and organising data due to its distinct advantages (Islam and Aldaihani, 2022). It enabled the researcher to associate labels or codes with amounts of text to search or explore the codes for patterns (Islam and Aldaihani, 2022; Alam, 2020). Subthemes and main themes were done manually using Braun and Clarke (2006) thematic analysis, inductive approach. Inductive analysis is a form of thematic analysis where the

researcher immersed themselves with the data and allowed patterns and themes to emerge from the real data without researcher`s analytical preconceptions or pre-existing coded framework (Naeem et al., 2023; Braun and Clarke (2006). Themes are constructed patterns or meanings derived from data collected and they answer a research question (Islam and Aldaihani, 2022). The following six steps proposed by Braun and Clarke (2006, 2012) as documented in Islam and Aldaihani (2022), guided the researcher in development of themes;

### **Step1 Data familiarization**

The researcher first listened to the audiotaped recordings more than once before transcribing for familiarity with the data. Then transcribed the recordings verbatim first into paper, also using the memo notes to capture non-verbal cues before being typed. The verbatim transcriptions in Setswana language, were then translated to English. The transcribed verbatim was read a few more times to be acquainted with the close details and other texts used and also checked the transcripts back against the original audio recordings for accuracy, which lead to the second step.

### **Step2 Initial coding generation**

The initial and formal analysis step in the thematic analysis is the line-by-line coding of the data, generation of the initial codes. In this stage, the researcher looked to capture a segment of the text`s essence. This was developed with the assistance of Nvivo` 15 (2024) software more than two hundred and fifty codes were produced. These codes are not something that can be generated when a researcher looks at their data, as a result the researcher created codes trying out ideas concerning the data. More than two hundred and fifty codes were developed. The researcher proceeded to focused coding identifying connections between various codes to narrow the number of codes leading to categories of codes. The codes were not themes but aided in generating the sub-themes.

### **Step 3 Search for themes based on initial coding**

The researcher looked for patterns by asking ‘what are the patterns among the codes? To identify overarching patterns and themes within the categories of codes, the researcher grouped related codes into potential themes based on the patterns or shared meanings, gathering all data relevant to each potential theme. It was crucial to ensure the themes

were developed efficiently which represented core aspects of the experiences of mothers with premature babies while caring for their babies in NICU.

#### **Step 4 Review of themes**

The researcher organised the data around the themes to finalise the theme for the next step. The researcher amended the mistakes in terms of themes. For example, a theme developed, but there was very little data to support the theme, it was either modified or abandoned in this stage or moved to another theme where it suited well. This was crucial to ensure the themes accurately represented the data and to ensure coherence and consistency.

#### **Step 5 Theme definition and labelling**

The researcher had to bear in mind that the extent to which a particular theme is identified should be different conceptually from other themes and identified the essence of what each theme was about. This was possible when the researcher reviewed the themes continuously according to the codes and categories to ensure they captured a distinct and coherent pattern within the data. Thus, the researcher was able to define and label every theme differently, thereby obtaining meaningful answers to the research question and general objective. Consequently six major themes and subthemes emerged, and for each theme a detailed description was provided.

#### **Step 6 Report writing**

In the final stage of data analysis, the researcher had a set of fully worked-out themes, and involved write-up of the report. The researcher polished and modified the analysis according to the problems and provided satisfactory evidence of the themes within the data i.e. enough data extracts which clearly illustrated and validated each theme providing a concise, coherent, logical, non-repetitive, and interesting account of the story the data communicated within and across the theme (Braun and Clarke, 2006). This helped to ensure that the themes were well founded and accurately reflected the experiences and perceptions of mothers with premature babies while caring for their babies in NICU, PMH highlighting the difficulties they encounter as they navigate their journey in NICU. The resulting findings are presented in the following chapter.

### **3.10.1 Data management and storage**

Data management and storage in any research study cannot be over-emphasized to ensure confidentiality, privacy and security. Therefore, the researcher ensured confidentiality, adequate security and privacy of the data collected. Audio-recorded interviews were transcribed verbatim and the transcripts were checked for accuracy and completeness. The transcripts were then stored in a password-protected computer and in a locked cabinet where the researcher only had access to data, for confidentiality and security. The consent forms, memo notes and interview guides which had participant`s demographics were kept in a lockable trunk to ensure security, easy reference, and quick and efficient retrieval of data. After completion of the study the, data was kept safely for a period stipulated by the University and thereafter incinerated.

### **3.11 Ethical and cultural considerations**

Ethical clearance and approval for the study was obtained from the National Health Research Authority (NHRA) with registration number NHRAR-R-1475/05/04/2024, the University of Zambia Biomedical Research Ethics Committee (UNZABREC) with clearance number REF.No.5403-2024, Ministry of Health Research Development Committee (HRDC) in Botswana with REFERENCE NO: HPRD: 6/14/14/08/2024. Institutional approval was sought from Princess Marina Hospital Institutional Review Board (IRB) in Botswana REFERENCE NO: PMH 2/11AII (492) and was approved on the 28/08/2024 and from PMH management before commencement of the study. Informed consent was obtained from all participants. There was only one teenage mother below 18 years, assent could not be obtained from adult family members as they were unavailable during the period of data collection hence could not participate in the study. No participant was harmed and were treated with respect. Participants had the right to understand what the researcher was doing and the researcher shared findings with them for their reactions among others. The study ensured voluntary participation, anonymity, confidentiality and privacy of information. Participation was voluntary as participants were free to withdraw without negative consequences. Pseudo names were assigned to participants to avoid linkage of the responses to the respondents. Counselling was provided to mothers of premature babies who were emotionally affected by the condition of their babies.

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION OF FINDINGS

#### 4.1 INTRODUCTION

This chapter present the findings of the descriptive phenomenological study design derived from data collected through in depth interviews and analysed using thematic analysis using inductive approach. The study was focused on exploring the experiences of mothers with premature babies admitted at NICU, PMH Gaborone Botswana.

#### 4.2 PRESENTATION OF STUDY FINDINGS

The table below shows the demographic details of participants and their babies` infant biographic data.

**Table 4.1: Demographic and infant biographic data for participants**

<b>Participant`s Demographic data n=12</b>		<b>Frequency</b>	<b>Infant Biographic data n=13</b>		<b>Frequency</b>
<b>Age</b>	20-31years	8	<b>Mode of delivery</b>	SVD	10
	39-40years	4		C/S	2
<b>Gravidity and Parity</b>	G1P1	4	<b>Gender</b>	Male	5
	G1P2 (Twin babies)	1		Female	8
	G2P2	3	<b>Birth weight</b>	0.8-1.45kg	11
G3P3	2	1.65-2.45kg		2	
	G4P4	2	<b>Gestational age at birthweeks)</b>	28-29weeks	7
<b>Marital status</b>	Single	10		32-36weeks	5
	Divorced	1	<b>Current weight</b>	0.86-1.4kg	8
	Married	1		1.6-2.52kg	5

<b>Level of Education</b>	Tertiary	7	<b>Mode of feeding</b>	cup	4
	Junior secondary	2		Tube	8
	Higher secondary	3		Mixed(cup and tube)	1
<b>Occupation</b>	Employed	7	<b>Days in NICU</b>	5-8days	4
	Self employed	3		16-17days	3
	Unemployed	2		22-28days	2
<b>Nationality</b>	Botswana	10		31-55days	3
	Zimbabwe	2			
<b>Religion</b>	Christianity	12			

**Key: SVD: Spontaneous vaginal delivery C/S: Caesarean section**

**(Source: Author`s own analysis, 2024)**

Tables 4.1 describes demographic data of the participants and their babies`biographic data. The findings showed that twelve mothers, aged between 20 and 40years participated in the study. Majority of mothers (8) were aged between 20-31years with the mean age of 30.4 years. Five participants were first-time mothers. Seven mothers attended school up to tertiary education and seven mothers were employed. The gestational age of mothers ranged from 28 to 36 weeks. Eleven mothers had single pregnancy and ten mothers gave birth via spontaneous vaginal delivery (SVD). In terms of nationality, majority were Batswana while few mothers were Zimbabweans. Ten mothers of premature babies were single mothers. Majority of babies in the study were females, including one set of twins. The birth weight of the babies ranged from 0.8 kg to 2.45kg whereas the current weight during data collection, ranged from 0.86-2.52kg. Eight babies were feeding by tube only and the duration of neonatal hospitalisation ranged from 5 to 55days.

#### 4.2.1 Presentation of the identified themes and subthemes

There were 6 main themes and 25 sub-themes that emerged from the study. The following table presents a short summary of the identified themes, subthemes, and associated codes, offering a structured overview of the rich qualitative data that emerged from the study.

**Table 4.2: Summary of the identified themes, subthemes, and associated codes**

Major theme	Subtheme	Codes
<b>The unfriendly NICU Environment</b>	<b>Restricted NICU access</b>	Inaccessible NICU, family concern about the baby family members inaccessible to the baby, frustration due to restricted access to NICU, restricted family access, parental concern about the baby.
	<b>Inadequate Mother-baby interaction</b>	Lack of bonding due to separation from the baby, separation from the baby, inadequate time with the baby, desire for bonding with the baby, Initial bonding, restricted time for mother-baby interaction time, yearning for baby bonding.
	<b>Scary and unfamiliar equipment/procedures</b>	Seeing very ill babies, alarming environment, exposure to critically ill babies, first time witnessing invasive medical interventions on the baby. Stressful invasive procedures on the baby. First time encounter with their babies. Fear due to noise from machines.

<b>Maternal Emotional Turmoil and Resilience in the NICU</b>	<b>Emotional overwhelm and Breakdown</b>	Anger, Anxiety, Stress in NICU, Frustration, fear for their own babies, impact of witnessing neonatal loss, emotional overwhelm, emotional breakdown, crying after being told baby`s diagnosis. Confusion. Trauma, Emotional unpreparedness.
	<b>Maternal isolation and support needs</b>	Maternal isolation, protection of family from emotional distress, helpless, persistent thoughts about sick baby and mother.
	<b>Fear and Anxiety related to Baby`s health.</b>	Anxiety triggered by NICU calls. Maternal anxiety, fear to lose the baby, fear and anxiety due to seeing very ill babies, uncertainty about baby`s survival, fear for baby`s survival, fear to lose babies exacerbated by medical equipment and noise. Fear for cross infection.
	<b>Shock and Sadness</b>	Shock, sadness, sadness and frustration, unhappy, self-blame.
	<b>Hope and resilience</b>	Hopeful, hope, hopeful after seeing the baby, hopeful amidst challenges, hopeful due to information from staff that preterm babies survive.
	<b>Mixed and positive emotions</b>	Mixed emotions, happy, happy despite being told that baby has demised.

	<b>Maternal Curiosity and Empathy</b>	Maternal curiosity regarding the baby`s health, empathy, sympathetic.
<b>A difficult preterm baby care journey</b>	<b>Unpleasant and unusual maternal experience</b>	Baby swapping, misinformation about the baby`s death.
	<b>Unfulfilled expectations</b>	Unexpected preterm birth, discrepancy in expectations, shock, disappointment.
	<b>Maternal Physical and mental exhaustion in NICU</b>	Tiredness, lack of rest, mentally draining and stressing, physical exhaustion in NICU, exhaustion due to lack of rest, inadequate time with the baby, overwhelming NICU.
	<b>Paucity in Emotional and psychological support</b>	Lack of psychological support or counselling, difficulty to openly request for counselling, late psychologist review, assistance from breastfeeding café, emotional support from staff, maternal isolation, need for psychological support, need for prayers during care of the baby, need for rehabilitation of mothers, need for maternal clubs.
<b>Information and Communication needs in NICU</b>	<b>Inadequate staffing</b>	Limited staff, Lack of attention in NICU, shortage of doctors and nurses, limited time with the doctors, delayed updates due to busy doctors, maternal need for communication.

	<b>Lack of information</b>	Lack of information, mother demand for information, lack of information due to nurses` uncertainty, impact of misleading online information, lack of knowledge about NICU, inadequate information, need to be informed.
	<b>Staff-Mother interaction</b>	Poor communication, good interaction with the nurses and doctors, appreciation of NICU nurses, perceived difference in nurse`s characters, need for sensitive communication.
<b>Support system and coping mechanism</b>	<b>Support systems and Relationships</b>	Supportive family, visitations, daily phone calls from family members, lack of support from the partner, maternal isolation, support from other staff in NICU
	<b>Coping strategies in NICU</b>	Motivation from the baby, motivation from other mothers, need for patience in NICU, self-reliant for information, unauthorized access to baby`s medical file, learning to care for the baby, less nervous due to prior communication with the doctors, self-assurance, praying, feeling fortunate amidst NICU challenges.
<b>Mothers Positive and Negative</b>	<b>Positive perceptions towards preterm babies</b>	My baby is a blessing, preterm babies perceived to be like other babies, preterm babies perceived stronger

<b>Perceptions of NICU environment and preterm babies</b>		than term babies, preterm, positive perception towards preterm babies, positive perception towards caring a preterm baby.
	<b>Perceived vulnerability of a preterm baby</b>	Preterm babies are sensitive, perceived risk for infections due to overcrowding, premature babies perceived to be fragile, underdeveloped.
	<b>Societal Stigma and Misunderstanding of Prematurity</b>	Perceived negativity towards preterm babies by the society.
	<b>Variability in Hospital Care and Support</b>	Perceived difference in care between hospitals, perceived absence of informational education prior medical procedures, perceived lack of rest, Feeling that some of the things are being hidden from them, perceived inadequate care, perceived good hospital care.
	<b>Variability in Staff behavior and attitudes</b>	Perceived difference in staff behaviour and attitudes, perceived difference in nurses characters, nurses perceived friendly and helpful, moody nurses, health care staff perceived unapproachable, perceived fear, anxiety and happy while other staff is working, doctors perceived friendly and supportive.

	<b>Resource perceptions</b>	Perceived limited resources in NICU, Need for access to resources, perceived need for education, perceived need for rehabilitation centres, perceived need for psychological support, perceived need for staff training, financial constraints, perceived need for privacy and increase in number of doctors.
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(Source: Authors own analysis, 2024)

#### **4.2.1.1 Theme 1 The Unfriendly NICU Environment**

Unfriendly NICU environment mirrored the lived experiences of mothers while taking care of their preterm babies admitted in NICU,PMH. NICU in this study is defined as the place where the critically babies are taken care off. Babies are usually surrounded by advanced and complex equipments such as ventilators, incubators and monitors with alarming sounds. Furthermore, the NICU has a restricted visitation schedule for mothers as they visit every 3 hours for feeding. Most mothers described the NICU environment as unwelcoming and overwhelming. This main theme is made up of 3 sub themes, restrictive NICU access, inadequate mother-baby interaction, scary and unfamiliar equipments.

##### **4.2.1.1.1 Restrictive NICU access**

This sub-theme described the challenges mothers and their families faced in order for them to have access to the baby. The NICU PMH policies allows mothers to visit the NICU every 3 hours and only the mothers are allowed to care for the baby in NICU. The study findings revealed that most mothers of preterm babies described the NICU to be restrictive as they are the only ones allowed in the NICU at a scheduled time. Most mothers reported that the family members usually visit them but they are not allowed to enter the NICU. This has resulted in most mothers expressing their concern that they cannot access their babies anytime and have to stick to the 3 hourly schedule. Additionally, it has resulted in family members being concerned about the baby and requesting for baby`s pictures. This hinders family centred care and results in mothers and their family members to be more

worried about the baby and frustrated due to NICU restrictions. Some mothers indicated that they are unaware if family members are allowed as they do not usually see the family members entering NICU. Below are the extracts from participants` narratives;

*“The problem is, you can’t just walk in to check on your baby. No matter how much you would want to see the baby, you just have to wait for that feeding time...”* echoed P11.

*“My mother came the day that I was admitted on the 17/08/2024. She met the security lady who told her that they are not allowed to enter though she was interested in seeing the baby.”* P10

*“It is been two days now, my husband asking me, now what is the procedure. There is a lot that we go through because we not seeing our baby, our mothers, our partners, siblings and children they cannot see the baby and they keep on asking how is the baby, is the baby okay. So I keep on saying Yeah I think the baby is okay”* P3.

#### **4.2.1.1.2 Inadequate mother-baby interaction**

The NICU though designed to provide critical care for ill babies it can inadvertently create an environment that limit the natural mother baby interaction which is crucial for bonding and development of the baby. The NICU policies as discussed previously, results in separation of the baby from the mother and also limiting the visiting hours for mothers to see the baby. Most mothers indicated that they are separated from their babies and were concerned as they do not know what is happening with their babies when they are not around. They reported that they wish to sleep with their babies in order to interact with them, they further narrated that sometimes they find their babies vomited if they were sleeping with them, they were going to attend to them faster and bond with them. Mothers end up feeling bad and think they are not parents because of the separation from their babies, they cannot fully take care of their babies due to separation and the limited time they have with their babies. To confirm this, mothers narrated;

*“..You are taken away from your child, you do not know what is happening with your baby.”* P8.

*“It makes me feel bad because I feel I should be sleeping with my baby, giving her time because sometimes I find her vomited and by that time we are not around, says with a sad*

*face eyes filled with tears. If I was sleeping with my baby I was going to help her faster because she would be next to me.....I feel we are not doing something, it seems like we are not real parents. We are parents but we cannot bath our babies says with a sad face.’ P5.*

#### **4.2.1.1.3 Scary and unfamiliar equipment/procedures**

The NICU environment entails advanced medical equipments and invasive procedures as well as alarming equipments. The study findings revealed that most mothers were scared and unfamiliar with the equipments and invasive procedures, they were frightened by the alarming machinery which aggravated the fear for the survival of their babies. Some were scared due to seeing critically ill babies and seeing their babies for the first time hence afraid to kangaroo and touch them. They stated to be uncomfortable with the procedures done on their babies as it was their first time witnessing them. These are some of the extracts from the mothers` narratives;

*‘I was very stressed and scared again that my baby is getting too much of the machines on him, because it was my first time to see him being put a tube in the mouth that goes inside and do not know up to where...My fear was always that, I would lose my baby because of seeing him in all these machines and around the noise from the machines’ P8.*

*‘It had really affected me and like there was a baby who was admitted with abnormalities with 3 legs. So I was just passing by and looking, not necessarily meaning to see it but it just happened passively. Seeing the baby`s brain exposed traumatised me eish!...with a sad face...I was traumatised, it created fear even for the kangaroo session’ P10.*

*‘I was afraid of her, she was very small. I was afraid to kangaroo her because I was afraid of touching her’ P5.*

The findings also revealed that mothers were scared due to witnessing the loss of other babies. To evidence this mothers narrated;

*‘But again it is scary...like it happened that the other mother who was taking care of her baby she lost the baby....It did not sit well with me. I felt like they could have taken her somewhere else, because that is a very critical situation and very sensitive. I took a*

*glimpse of the baby when they were talking because they uncovered the baby. I wish I had not seen that’’ echoed P7.*

#### **4.2.1.2 Theme 2 Emotional turmoil and Resilience in the NICU Environment**

The NICU environment represents a highly stressful environment where mothers of preterm babies experience hope, uncertainty and encounter the excitement and disappointments as they navigate the complexities of the NICU environment. Mothers find themselves in emotional distress, emotional overwhelm and breakdown including fear and anxiety, anger, sadness, self-blame and worry about their baby`s survival etc. Despite these challenges mothers of preterm babies demonstrate remarkable resilience, able to find means to navigate the emotional challenges in NICU, PMH and able to cope and remain hopeful.

##### **4.2.1.2.1 Emotional overwhelm and Breakdown**

This subtheme focuses on the emotional toll that diverse experiences in NICU have on the mothers of preterm babies while caring for their babies in NICU, PMH. The study findings revealed that mothers of premature babies exhibited feelings such as anger due to the absence of their partners who could be supporting them during their lowest times. Anger arose also when the advanced medical procedures were done several times on their babies which heightened the mother`s stress. Similarly, overhearing doctors talking about infections in NICU also heightened mother`s stress level. Most mothers reported to be worried about their babies` survival as most of the time, they do not sleep with them and did not know what will happen to their babies. Additionally, mothers reported to have emotional breakdown when they were informed about their baby`s diagnosis, as they went to their rooms and cried. They reported to be afraid of losing their babies when they heard that their babies were admitted to NICU and witnessing the death of other babies as they thought their babies will be next, resulting in emotional distress. To confirm this mothers narrated;

*‘‘Like we need support from the closest especially from you partner the one whom you have a baby with, so if he starts acting and not available during that time, you get so angry...the other mother who was taking care of her baby she lost the baby, who was in*

*the same room where our babies are sleeping...It was very sad for us and we were like what if mine is next..* 'P7.

*“From my knowledge I know they mostly use the mask that covers the nose...I think I lost my temper on her and I told her that, rather I take my baby and go home. Because the intubations are now too much*’ P10.

*“I went there on Monday when the baby was in NICU and they told me the baby has jaundice. It was my first time to hear about jaundice. So I broke down...with a sad face.... So the doctor asked why are your eyes red and swollen? so when the doctor asked I could not answer and I started crying again that is why the doctor took me to the office.”*P12.

Some mothers reported trauma and confusion while caring for their babies, due to lack of information and understanding what was going on with their babies and some mothers did not know what to expect as it was their first time, giving birth to a premature baby. P3 narrated;

*“A bit of trauma as well because you do not know what is going on”*

#### **4.2.1.2.2 Maternal Isolation and support needs**

As mothers of preterm babies navigate the complexities of NICU they find themselves isolated due to emotional toll in NICU. The study findings revealed that mothers of preterm babies isolated themselves due to emotional distress and worry while caring for their babies. They reported that they were worried about their babies more so that they were not sleeping with them which heightened their stress levels. As a result, they isolated themselves from other mothers and they could only talk to their family members especially during the first days. Most mothers reported that due to the emotional trauma they underwent of seeing their babies' small, they also wanted to protect their family members from similar experience by giving excuses each time when family members wanted to see the baby, to refrain them from entering NICU. Additionally, they reported to have hidden the pictures of their babies surrounded by machines during visiting hours, to refrain family members from being affected after seeing them. To confirm this mothers narrated;

*‘‘At first I wanted to be alone and did not want to talk to anyone. I felt the people I could talk to, were my family members only. Even the first days those were the people I talked to only on the call’’P5.*

*‘‘Every time they visit me. They ask me if they are allowed to see the baby. Then I would say yes, but I would just give an excuse like my feeding shift has ended...so they cannot let you in maybe when the other shift is on. So I just give them excuses.’’P2.*

Mothers also reported that they felt helpless when they became aware that their babies were admitted to NICU and moreover they could not interact well with their babies due to separation. They further reported to have had persistent thoughts about the mother and the critically ill baby who was sleeping in the same room with their babies. They stated that it affected their emotions that they could stop thinking about them and almost ended up forgetting to care for their own babies. The study findings revealed the support mothers of preterm babies need. To evidence this, mothers narrated;

*‘‘I felt helpless...I have not held my baby, fed her, kissed her comfortably yet. I felt very helpless. So it is very hard.... I haven’t been in my house, slept in my bed, eaten my food, I have not heard her cry’’P3.*

*‘‘This affects our emotions. I could not stop thinking about that baby feeling for the mother and the baby and ended up not concentrating on the baby... eyes filled with tears’’P10.*

#### **4.2.1.2.3 Fear and Anxiety related to Baby`s health**

PMH is a referral hospital which admits babies across the country and where most specialists are found. Considering this, most of the periphery hospitals admits babies to NICU, PMH for advanced neonatal care consequently resulting in overcrowding. The study findings revealed that anxiety was triggered by NICU calls, whenever mothers were called by NICU staff to bring some belongings for the baby, they became more worried and feared for the negative outcome of their babies. Mothers reported that they wondered if something bad has happened to their babies as they attended the call. Most mothers reported to be worried about their babies` survival and expressed fear to lose their own babies. Some mothers, as they saw critically ill babies, it brought fear and questioning on whether their babies will survive or not. Most mothers of preterm babies reported to be

anxious and uncertain whether their babies would survive or not, when they heard their babies were admitted to NICU and when they first encountered their babies. Additionally, they reported seeing their babies in machines and noise exacerbated their fear to lose their babies. Mothers narrated;

*‘Whenever they call you from the NICU to say, please bring this, my fear will be no they are going to say something bad, why are they calling. So that was my greatest fear that my baby might give up’ P8.*

*‘I kept on wondering when my baby was going to be fine and able to see her breathing on her own’ P5.*

*‘You feel uncertain, you are not sure if you are going to walk out with the baby or not, because you just see your child in a tube, machines beeping. That picture on its own is enough to bring doubts in your mind that something is going to happen, I am going to lose the baby.’ P7.*

Mothers reported fear for the possibility of their babies getting infections. To confirm this mothers narrated;

*‘Since the babies did not have divided portions, it made me afraid because as the doctors were helping other babies, saying this baby has this infection etc. I ended up being afraid that, what if my babies gets the same infection’ P4.*

#### **4.2.1.2.4 Shock and Sadness**

The study findings revealed that mothers of preterm babies were shocked on their first encounter with their babies, they expressed that, it was their first time giving birth to such small babies. Shock also ensued as they learnt that their babies were sent to NICU and surprisingly, find their babies surrounded by machines with breathing complications. Most mothers expressed feelings of sadness when narrating their stories. They felt sad and exhibited a sad face due to how events unfolded in NICU while caring for their babies. Additionally, on the first encounter with their babies, when they discovered that the medical procedures were performed on their babies without prior notification. To confirm this mothers narrated;

*“I saw it with my eyes... It was a baby with a small size. It was my first time giving birth to such a small baby... I felt sad and frustrated. I was depressed” P2.*

*“I felt like fainting... when the medical staff told me that, my baby has been sent to NICU...I thought I will find him bigger and his weight fine, so when I came to see him surprisingly, I found him with the tubes that were inserted to help him breath and was not breathing well” P1.*

*“I feel very sad when I see her with things covering her eyes and under the blue light....the way I saw what they were doing in her eyes and placed her under the light... I felt bad though I understood it was helping the baby” P5.*

Mothers also reported to be frustrated and depressed as they narrated that they were afraid of losing their babies and also they were depressed due to deterioration of baby`s condition where they were informed to withhold or reduce feeds instantly. The study findings also revealed that mothers were unhappy as they hoped to deliver their babies at term.

*“Finding out that your baby is vomiting or your baby`s tummy is what, now stop the feeds, stop feeding the baby or reduce the feed then the weight goes down is depressing really with a sad face.”* echoed P11.

The study findings also revealed that mothers of preterm babies exhibited self-blame as they wondered if they are the ones who caused the preterm delivery or maybe it is because they were not taking good care of themselves during pregnancy which resulted in the delivery of preterm birth or the stresses in life. To evidence this mothers narrated;

*“I ended up blaming myself that is it because I did not eat enough nutrients during pregnancy or life stresses which caused my baby to come earlier.”* P10.

#### **4.2.1.2.5 Hope and resilience**

The study findings revealed that most mothers were hopeful when they heard that their babies were sent to NICU as they knew their babies would get the advanced care for them to survive. As the mothers of preterm babies navigated their journey in NICU, seeing their babies improving and seeing them for the first time instilled hope in them. On the contrary some mothers were hopeful amidst challenges, despite being told that their babies has

demised, mothers were resilient, remained hopeful and believed their babies will survive. They reported to have a strong faith and prayer which aided in overcoming the challenges, to cope and adapt in NICU. One of the mothers reported that she was not shocked when she was informed of the baby's death, because of her faith, she prayed and the baby was found alive. To evidence this, mothers said;

*‘After seeing him, I had positive thoughts that things will go well... also when I saw her improvement and brightening, I became hopeful’* P1.

*‘I was not shocked. I believed my child will survive when they told me my son is no more. I told them go and check again my son is alive. I prayed that whatever is going to happen he is going to be fine.....they told me my baby is still alive....I have that strong faith nothing else.’* P9.

Additionally as mothers of preterm babies navigated their journey in NICU, and their babies were critically ill, they remained strong and positive, they believed their babies will be well and go home with them. One of the mothers was hopeful due to information she was given by the health care providers, that preterm babies less than 700g can survive hence they became hopeful that her baby will make it since she was bigger than that. To evidence this mothers narrated;

*‘It is going to be okay, my child will gain weight, we will go home, she is going to grow and be fine’* P7.

*‘I knew that she will be in good hands and all that...because I was told that smaller babies less than 700grams survive and all that and I was like wow mine is bigger so it is going to be a small issue etc.’* P11.

#### **4.2.1.2.6 Mixed and positive emotions**

The study findings revealed that some mothers were happy when their babies were admitted in NICU as they reported that during their pregnancy, they were informed of the chances of their babies not surviving due to prematurity. Some mothers expressed mixed emotions as they became excited when they saw their babies improving, gaining weight. Disappointments ensued when they found their baby's condition deteriorated whilst they

left them stable and well. One mother was happy despite being once told that her baby has demised as elaborated earlier. This is what the mothers said;

*‘I was happy because when I came here, I was told it is a miscarriage’ P9.*

*‘There is excitement and disappointments...with excitements you will see that the baby is improving from one stage to another becoming bigger because the baby was very small, gaining weight and moving from those machines to breathing through the tube that is put on the nose and moved to the incubator, you will be like oh this is wow!.....But now, the disappointments comes when you are told that the baby has the infection and forgets to breath. You will be like oh what is going on and all that. So sometimes it disappoints really. You will be like but everything was going well but now...what happened’ P11.*

Some mothers reported trauma and confusion when caring for their babies due to lack of information and understanding what is going with their babies. Some mothers did not know what to expect as it was their first time, giving birth to a premature baby.

*‘A bit of trauma as well because you do not know what is going on.’ P3.*

#### **4.2.1.2.7 Maternal curiosity and Empathy**

The study findings revealed that mothers of preterm babies were curious to understand more about their baby`s condition as they navigated their journey in NICU. Due to lack of information, they became frustrated and insistent on the doctors to give them information. They strived to figure out information for themselves, on how some of the NICU equipment`s such as ventilators and saturation monitors work and interpreting the readings. Additionally, due to curiosity, they ended up contravening hospital policies by getting access to their baby`s medical files in order to get information about their babies` condition and started asking questions with the limited information they had. The study findings revealed that mothers of preterm babies also felt empathetic and sympathetic for the demised baby and the mother aggravating their fear and anxiety for their baby`s survival. Mothers also felt empathetic for babies who had infections in the ward which compounded the fear of their babies getting infections. To confirm this, mothers narrated;

*‘Now I think I get that there is the machine that pumps the oxygen to the baby etc. 70% is using the machine.... So it starts to make sense that this white pipe is picking up the*

*pulse... I think I would not have been able to cope I am not hundred percent. I am comfortable'* P3.

*'Yeah... so likely I knew how to read, more information I got it from the baby's file. So it made me curious and started asking doctors some questions'* P2.

*'I wondered what was going on, what if it was my babies, how would it be...with a sad face'* P4.

#### **4.2.1.3 Theme 3: A difficult Preterm baby care journey**

The theme encompasses the physical, emotional and psychological challenges mothers of premature babies encounter while navigating their journey in NICU, PMH. It consists of four subthemes; unpleasant and unusual maternal experience, unfulfilled expectations, maternal physical and mental exhaustion in NICU, and paucity in emotional and psychological support. This rendered their journey more difficult while caring for their babies in NICU, as evident from the participant's narratives.

##### **4.2.1.3.1 Unpleasant and Unusual maternal experience**

As mothers of preterm babies navigated their journey in NICU, they underwent experiences which they regarded them as unpleasant and peculiar. One mother reported to have had a peculiar and unpleasant experience, she reported that due to lack of communication that her baby was moved to another room, when she came later to see the baby, she nursed a different baby unknowingly. She narrated that she could not notice the difference in babies as they looked similar due to absence of labelling and tags. Mother narrated that she found out after two days, and likely she did not feed the baby breastmilk, instead baby was fed formula milk only while her baby was unattended and skipped about three feeds. Mother reported to have been stressed, devastated and scared by the experience aggravated by failure of the nurses to be accountable due to change of shifts. This left her with negative thoughts that they wanted to change her baby and guilt that she neglected her baby. P10 lamented;

*'My worst experience in NICU, first day, I came to see the baby and went back, they told me to come back the following day... throughout the night I have been coming well and not told that they moved the babies.... As I routinely came to feed the baby, I noticed this*

*baby has been fed, diaper changed and only to find out that we are feeding the same baby... they swapped my baby with the other baby, this really scared me...My baby was left unattended, cried the whole night for almost 2 days and skipped about 3 feeds, it really stressed him and he cried repeatedly even after feeding and kangaroo...What really hurts me the most was that, there was no one to admit it and apologise...It was a different shift with a different nurse. My baby did not have a tag or labelling, when I followed him where he was sleeping. This did not sit well with me, it struck me so hard and really stressed me. I felt that they wanted to change my baby. So I had negative thoughts.”*

Another mother reported that she was once told that her baby has demised and when they went to check on the baby, they found the baby with spontaneous breaths. Mother reported that she was not shocked as she believed her baby will survive as she had a strong faith and she prayed when they went to check on the baby. P9 lamented;

*“They once told me that my baby is dead...I was not shocked. I believed my child will survive when they told me my son is no more. I told them to go and check again, my son is alive because I had strong faith...They told me he forgets breathing, so that time he took a very long time to breathe. I prayed and when they said they want to take him to the mortuary, I told the doctor to go back and check on my baby. I repeated, go and check him again...They found him breathing and told me my baby is still alive but the breathing is picking too slowly. When they told me to go and check the baby also... I went after 30 minutes”.*

#### **4.2.1.3.2 Unfulfilled expectations**

Delivery of a preterm baby results in mother`s hopes and expectations of having a healthy term baby to be shattered. The study findings revealed that some mothers of preterm babies were surprised by the birth of a preterm baby. They expected to deliver a term baby and the birth of a preterm baby came as a surprise. Mothers reported that they expected to be sleeping with their babies and bonding with them. Surprisingly, the birth of a preterm baby has resulted in separation from their babies during a crucial time which they could be bonding with them. Some mothers reported that, what they anticipated is not what they found in NICU i.e. discrepancy in expectations leading to disappointment. Mothers narrated that, they expected the nurses to be feeding their babies while their responsibility

would be to bond with their babies, doing KMC and change their babies` diapers but to their surprise they had to feed their babies every 3 hours. They further lamented that they thought they would find their babies` weight normal but was shocked to find the baby small and the features different from what they expected. To confirm this, mothers narrated;

*“It is something that I did not expect. I thought maybe I would reach 9 months but then it just happened unexpectedly says with a sad face eyes filled with tears...I hoped that since we are new mothers we are experiencing pains. I was expecting that they would be feeding the babies and say, no mothers you need to come and see your baby, do KMC, and change the pampers but the feeding part, they do it for us but unexpectedly we have to do it every three hours.” P8.*

*“So it is very painful because when you are pregnant, the main aim is to have your kid 24 hours even feeding them every 3 hours it is okay. Then imagine you have a kid and you have to see them every 3 hours you don`t even sleep with them in the main time.” P12.*

*“I really did not expect to find him in that situation...I thought I will find him big and the weight fine, so when I came to see him I found him with the tubes inserted to help him breath and not breathing well.” P1.*

Mothers further narrated that, when they saw their baby improving and all of a sudden the baby`s condition changed unexpectedly, baby vomiting and told to stop the feeds which resulted in the loss of baby`s weight which compounded their stress leading to emotional breakdown, isolation and loss of hope. This resulted in mothers regarding preterm baby care journey as difficult and challenging. Participant 11 lamented;

*“When you expected something and it does not go as expected....when your baby was gaining weight and growing as they weigh every day, then all of a sudden you find out that she is vomiting or the tummy is what, now stop feeding the baby or reduce the feed then the weight goes down...I felt like ah this is the end, I just broke down alone and cried. It is not a simple journey it is not easy really”.*

#### 4.2.1.3.3 Maternal Physical and mental Exhaustion in NICU

The journey of a preterm baby care is physically demanding as mothers of preterm babies are expected to visit NICU, PMH three hourly for feeding and caring for their babies inclusive of kangaroo mother care (KMC). This was exacerbated by constant worry and fear for their babies` survival as elaborated earlier. The study findings revealed that all mothers of preterm babies described NICU to be tiring and have lack of rest as they are expected to feed and kangaroo their babies every 3hours. Mothers also reported NICU to be mentally draining and stressing and have found themselves missing the feeding hours unintentionally whilst taking a nap. Most mothers of preterm babies reported to have inadequate time with their babies especially at night after feeding their babies, they rushed to their rooms where they sleep in postnatal ward, to rest due to fatigue resulting from physical exhaustion in NICU. They reported that it has also led to less time for providing KMC to their babies. Most mothers also reported that they found themselves dozing while providing kangaroo and feeding the babies thus posing a higher risk for a baby to fall. Additionally, they also reported NICU to be overwhelming as when they leave NICU they were also expected to express milk before the next visiting hour hence there was not enough time to rest. To confirm this mothers said;

*‘‘There is no rest, we wake up every three hours which is not good at all because when we get there, we hold our babies while tired and we are not able to give them enough time or spend more time with them. Despite being given the whole hour we end up using only 30 minutes on our babies because we will be tired already, dosing and want to finish faster in order to go and sleep. We are unable to have enough time with our babies because we do not have time to rest’’* P5.

*‘‘It was very difficult to always wake up every 3 hours...it is stressing and the mind does not work properly.’’* P4.

*‘‘This side is very exhausting because I have to be coming here every three hours, so you would find that you are always tired because you did not sleep and yet you have to express the milk before coming to the baby....sometimes you can miss the time, when you are supposed to come at three, you come at half past three.’’* P8.

#### 4.2.1.3.4 Paucity in Emotional and Psychological support

Preterm baby care journey is emotionally and psychologically challenging as narrated earlier. During this time, mothers of preterm babies require the psychological and emotional support due to psychological and physical changes taking place among mothers underscoring the importance of providing adequate emotional and psychological support. The study findings revealed that most mothers of preterm babies did not receive psychological support or counselling while caring for their babies in NICU, PMH. Some mothers reported to be emotionally overwhelmed and very difficult for them to openly request for counselling due to the psychological trauma they undergo. Some mothers expressed that some staff members were shocked when asked why they haven't offered them counselling and other mothers reported that they haven't had any healthcare provider approaching them for counselling. Additionally, some mothers reported that even though people will be trying to offer them support, it will be as if they are saying nothing due to emotional overwhelm. One mother reported to have been referred to a psychologist with the assistance of a doctor who attended to her during her admission in private hospital, where the psychologist stated to have approached the mother for psychological support at a later stage. These gaps results in mothers being vulnerable, isolated and unable to manage the emotional toll hence making the preterm baby care journey difficult. To confirm, this is what the mothers said;

*'I haven't received any type of psychological support even last time I asked the other nurse why they haven't offered us counselling. She was shocked and responded... you haven't been offered counselling yet?...I responded stating that we haven't been offered counselling nor psychological support...especially the first few days are very difficult at least 15 minutes session with a psychologist or something to vent out'*P10.

*'Because there is no one who will come voluntarily and say I need counselling it is very difficult to do that, we do but it is very difficult to tell people that "I am overwhelmed" I need someone to talk to. So maybe if it was done casually just for five minutes, it will be nice says with a sad face eyes filled with tears...Even if it is not one on one even if it is in group sessions it would be nice, knowing that today we are going to be encouraged.'*P7.

*“Though people will be giving you support and all but it will seem like they are just saying nothing because it was too much.... they just referred me to a psychologist from here in PMH, so when the psychologist came, they found me in this situation and they said ah!....we think we came late. The doctor who seen my baby from GPH felt to say, if you have stayed in NNU for almost two weeks you really need a psychologist. She just came yesterday and found out that I have not even got a referral to see the psychologist that is when they wrote the letter yesterday.”P8.*

On the contrary, some mothers reported to have got the emotional support from breastfeeding café which assisted them to navigate the journey of a preterm baby care. Few mothers, also reported to have received emotional support from nurses and doctors. To confirm these mothers said;

*“The doctor took me to the office and we found the nurse manager there. So they went on to talk to me, asking some of this questions...the birth weight, is the baby on machines, oxygen. They told me the baby is doing well, just trying to calm me down.”P12.*

Mothers distanced themselves from other mothers due to lack of psychological and emotional support. All mothers expressed the need for psychological and emotional support where they can have extended hours with the doctors and psychologist, the need for rehabilitation where mothers will receive counselling services, clubs and prayers to help mothers soothe the emotional and psychological challenges they undergo while caring for their premature babies in NICU. To evidence this, mothers lamented;

*“You become scared that on its own requires the presence of a psychologist in NICU who will offer us psychological support once they hear that mothers knows what happened, when there is a baby who has passed away to comfort us’ P10.*

*“I wish they could re look in to it and have like a certain club where we will be able to talk together as mothers and to each other, pray together... it will teach mothers. So even now some ladies we sleep together. I don’t know even know their names. I just say hello and you just mind your own when feeding hour elapses I walk out...” P12.*

#### **4.2.1.4 Theme 4 Information and Communication needs in NICU**

The NICU environment is highly stressful and emotionally challenging to mothers of preterm babies. As a result, access to information about baby's condition and medical procedures etc. is crucial for mothers of preterm babies to navigate the challenging care of their babies. Communication is an essential component in NICU, it fosters trust, alleviate fear and anxiety among mothers of preterm babies as well as empowering them to confidently care for their babies.

##### **4.2.1.4.1 Inadequate staffing**

The study findings revealed that inadequate staffing in NICU especially the doctors, which was a significant factor affecting communication with the mother. Most mothers of preterm babies reported lack of attention in NICU as most of the time when they needed assistance everyone seemed to be busy and engaged more especially the doctors. They described the shortage of doctors to have resulted in delayed updates and maternal need for communication on the certain procedures done on their babies in their absence. This has resulted in mothers feeling unsupported further compounding the emotional and psychological challenges in NICU. To confirm this mothers narrated;

*‘So I noticed that there was not much attention and time to get attention and you have to be patient and stuff’ P3.*

*‘There is less staff and yet there are many babies..... I would ask a doctor about my baby, the doctor will tell me how overwhelming their work is, which is something far away from what I am asking’ P8.*

Mothers expressed the need to increase the staffing especially doctors as they narrated when they asked for help, when the doctors were about to assist them they would be called for another ill baby. Mothers expressed that the overwhelmed staff will struggle to balance their workload which impacted their interaction with them. To confirm this, mothers narrated;

*‘There is shortage of doctors...when you asked the doctor for help they would take a file when they are about to answer you they will be called for help and rush to help...also, I thought each nurse would be having one baby taking care of that baby the whole day but*

*only to find that one nurse is taking care of nine babies and the other in another cubicle also with many babies.’ P4.*

#### **4.2.1.4.2 Lack of information**

Inability of the health care providers to adequately provide mothers with information or communicate with them results in a stressful, isolating and confusing environment. The study findings revealed that most mothers of preterm babies experienced lack of orientation on their first day in NICU and updates about their baby`s condition. This has resulted in mothers demanding for information from the nurses and doctors about their babies` condition, where doctors were found to be busy and engaged with their work. Most mothers reported that they were unable to get the information about the baby`s condition due to nurses` uncertainty. They reported that nurses often referred them to doctors when they requested for information. In relation to this mothers narrated;

*‘So there is no like welcome to NNU, you get it, this machine does this, positioning this and this and going forward this is what we will be doing. So the orientation is not there too, you are just there to do things..... I also asked one of the doctors who was there, what was going on and then she said I will get back to you’’ P3.*

*‘Nurses sometimes would not give you proper information, not like they do not want to but because they are not sure...they do not want to give wrong information. They would rather say...I would ask the doctor. They even encourage us to ask the doctors on information which we do not understand’ P12.*

Lack of information has resulted in some mothers seeking information and getting access to misleading online information from unreliable sources in the internet which compounded their anxiety, fear for their own babies` survival and led to emotional breakdown. Some mothers reported lack of knowledge about NICU and indicated that it is important for machines in NICU to be explained to them. Mothers narrated;

*‘I think sometimes we do research but it affects us negatively because after I heard about it, I was full time on my phone trying to research on my own what is jaundice. So the doctor there was really....saying it can lead to cardiac arrest, stroke laughs out loud so that is why I was actually crying’ P12.*

*“As mothers we do not know the names of these machines and you would prefer it to be explained to you” P11.*

On the contrary few mothers reported to be updated about the baby and given orientation when they arrived in NICU the first day. They reported to have received information on what to bring and how to care for the baby even though they lamented it to be inadequate, as they were not informed about whether the family is allowed to visit or not.

*“First day when I came, they showed me my babies, how to feed them and what to bring when visiting the baby, what to wear especially the short sleeved to prevent the infections. They did not tell me whether family members are allowed to see the babies” P4.*

This compounded mothers` emotions, leading to feeling of confusion while caring for their babies in NICU. Mothers expressed the need for information while caring for their babies. They reported that being informed about their babies would help in alleviating their emotional trauma and confusion. To confirm this P3 further lamented;

*“So there is a lot of no information at all and it will be nice to be told all the information. It may save us from trauma and confusion.”*

#### **4.2.1.4.3 Staff – Mother interaction**

As the mothers of premature babies navigate the complexities of premature baby, they interact with the health care providers i.e. doctors and nurses. The manner in which mothers communicate and collaborate with the health care professionals in NICU aid in shaping the mothers experience and emotional wellbeing. Communication between the healthcare providers and mothers aid in mothers making sound decisions. Most mothers of premature babies reported poor communication while caring for their babies in NICU while some mothers reported to have good interaction with the nurses and doctors and appreciated them. To confirm this is what mothers said;

*“I feel like communication is lacking because sometimes they attend to our children when we are not around and the next thing you find the baby pricked, the hand swollen and then say that they were collecting bloods and you are not even told the reason why they were collecting bloods. At least to just let us know that yesterday when we saw the baby we*

*realised one, two, three so we decided to collect the blood because of one two three, write in the file, put back the file and then just go. So, I feel there is poor communication'* P7.

*'Honestly it was easy working with them I did not have any have any challenges with them. They really helped me when I needed assistance. I cannot complain. As for nurses when you needed help you would find her in the room where she is working in and if you needed anything she will be there to assist'* P4.

Additionally, some mothers reported that there were some nurses who had poor interaction with them. The interaction between the healthcare care providers and the mothers has resulted in mothers perceiving the difference in the nurses` characters. Some mothers expressed the need for sensitive communication when health care providers communicate with them, more so that they have not received psychological support which aggravated their stress. To evidence this mothers narrated;

*'There are nurses that are very attentive, friendly very open to share the information. There is staff that is so dismissive, they may be very difficult, if you say I think this tube is not in place or my child is bruising from this drip or I think this strapping is dirty can you please change it, they will be like "no leave it" but you can see that, there is saliva etc.it needs to be changed but I can`t...I have to step back and let them do their job but they are not'* P3.

*'...Our feelings at this moment are still sensitive. So some of the things the staff say or do to us maybe sensitive to us more so that we have not received any counselling...Like a situation whereby when your milk is not coming out then you ask the nurses if they can assist you with the milk and then they tell you that you should go and buy your milk, at night says with a sad face eyes filled with tears'* P2.

Good interaction with mothers` aid in alleviating their stress and frustration while fostering trust between mothers and health care providers. On the other hand poor interaction with the health care providers can contribute to frustration and fear among mothers. The study findings revealed that mothers of preterm babies were left with a feeling of fear and anxiety due to poor interaction between the nurses and mothers. P11 lamented;

*“My baby was active from day one and did not have anything. So the fear came in when that very same day, when I asked the nurse if the feeding tube is okay and they told me to just feed the baby. Then I fed the baby and did kangaroo...after feeding I felt that something was wrong with the baby, my baby was not moving, I tried to call, play with the baby, touch her and all that but the baby could not respond. The next thing I was told the tube was not okay the milk has gone into the baby`s lungs so now it closed, there was no air....eyes filled with tears so now the baby stopped breathing and was put in a machine...So that was my worst fear”.*

#### **4.2.1.5 Theme 5: Support system and coping mechanism**

This main theme highlights the source of support and coping strategies as mothers of preterm babies navigated the complexities in NICU.

##### **4.2.1.5.1 Support systems and relationships**

The study findings revealed that as mothers navigated the complexities in NICU they got the support from family members which assisted in overcoming the difficulties in NICU. Most mothers reported to have a supportive family which provided them with the necessities they needed, the daily phone calls enquiring about their wellbeing and that of the baby and daily visitations aided in alleviating their stress. Despite the NICU restrictions on family visitations, most mothers reported to be comforted following the subsequent conversations with their family members especially during visitations. They reported to have isolated themselves during the difficult times as they only wanted to talk to family members. They also reported that the support from family motivates them to wake up and care for their babies. One mother reported to have lack of support from the partner which triggered her anger as elaborated earlier. To confirm this mothers narrated;

*“My family is really supportive, when I am emotional and my baby is not well, when I call them, they support, encourage and counsel me and tell me that in this situation you are supposed to be patient and not give up. I am happy about the support they give me. Their support gives me strength to wake up where I am sleeping to come to my baby” P1.*

*‘My family has been really supportive...they are trying and my relatives are also trying, they usually visits me, especially my mother after every session, she calls asking about the baby. If there is anything reported, I inform her and she consoles me’ P10.*

Mothers also found comfort in other staff members in NICU. The study findings revealed that during the difficult times in NICU when mothers underwent emotional breakdown they also got the emotional support from the security guards and the cleaners. They appreciated the support they provided them. This emotional support on usual cases is given by the health care providers but in this case mothers found comfort in the security guards and the cleaners. To confirm this P8 said;

*‘The security lady is very supportive...when my baby was bleeding again from the very same tube that they put in the mouth. They were now telling me that he is bleeding from the lungs, the chances of him surviving are less. So I left there like crying, I was about to faint... So that lady came, hugged me and she told me all things will be well I should not be worried. She is really a good lady, she gave me a motherly support that I was not getting at that moment because my mother was not there.’*

#### **4.2.1.5.2 Coping strategies in NICU**

Despite the support from family, mothers of preterm babies often employed various coping strategies to navigate this demanding period to manage their stress, fear and anxiety whilst navigating their journey in NICU. The study findings revealed that most mothers were motivated by their babies and as they interacted with them it became easier to adapt and care for their babies. Seeing other mothers doing KMC motivated them to accept and care for their babies as they were scared for them including providing KMC during the first days. Additionally, seeing other mothers undergoing similar experience motivated them and felt that they are not alone in this challenging period which also empowered them to care for their babies. To confirm this mothers narrated;

*‘My baby also motivates me to wake up and go to him’ P1.*

*‘The first few days it was difficult...the fact that you had to start kangarooing a very small baby...hey! I was not really comfortable how to do it but as you go on you end up forming a close relationship with the baby and it becomes easier’ P10.*

*“Seeing other mothers doing kangaroo for their babies also motivated me because I felt I was left behind. This motivated me to give my baby the love, to accept her that, it is my baby there is nothing I can do” P5.*

*“You feel like okay I am not alone in this. I have people here who are going through the same thing. Maybe we can be a family and support each other and then get this thing going” P7.*

Mothers also reported that they had to be patient in NICU as they incurred lack of attention due to shortage of staff. They further narrated that they had to be self-reliant for information, figure out some of the things for themselves and accessing their baby`s medical files in the absence of the health care providers in order to understand their baby`s condition. They also focused on their babies using the information they got from breastfeeding café. Few mothers reported that they had to learn how to care for their babies since they were first time mothers in order to cope in NICU. To evidence this, mothers said;

*“You find one doctor in the morning and during the day and they will say they will give you feedback and then knock off before attending to you... So you also have to be patient with them and try to understand that... I had to put my feelings aside as much as I could and just decided to focus on my baby, doing what I can with the information I got from the breastfeeding café...Also, I took a picture in my baby`s file and told myself it is my child I should be knowing what is going on. I may not understand the details, language but I can read...” P3.*

Few mothers reported self-assurance and indicated that whenever they are stressed they counsel themselves and then their babies will behave well. Some mothers reported to be praying amidst challenges as explained earlier. Few mothers reported to have been less nervous due to prior communication with the doctors who informed them that their babies will be admitted to NICU post-delivery. P9 and P6 narrated;

*“I counsel myself if I have stress then my baby will behave well” P9.*

*“They told me while I was still pregnant in Antenatal ward and I came knowing that my baby is going to go to NICU. This made me less nervous” P6.*

Despite all the challenges, some mothers found themselves feeling fortunate that their babies were still alive and born with all organs amidst challenges. They realised the positive aspects of their situations. To confirm this mothers said;

*“So those were the real moments you count yourself lucky because your child is born with all organs...and you will be like eish! There are worse situations than mine and my baby is here trying to prove it” P7.*

#### **4.2.1.6 Theme 6: Mothers Positive and Negative Perceptions of NICU environment and preterm babies**

The theme emerged as a central aspect of mother’s experiences in NICU, capturing how mothers of premature babies interpreted and understood their premature babies and the NICU environment. It encompasses how mothers` view, believe and interpret their preterm babies, the care provided to their babies in the NICU, societal attitude towards their premature babies as well as the resources and the support provided to them. Some mothers perceived them to be positive while some mothers perceived them negative. These perceptions are shaped by their experiences while caring for their babies in NICU, PMH and provide profound understanding into their emotional and practical needs during the care of their babies.

##### **4.2.1.6.1 Positive perception towards a preterm baby**

Despite the challenges mothers of preterm babies encounter while caring for their babies, they remained optimistic about their preterm babies. Study findings revealed that most mothers of preterm babies had a positive outlook for their babies and hoped for the best for their premature babies. Mothers of preterm babies believed their babies to be a blessing from God. They perceived them to be like other babies just that they are small and even if their babies grow, no one would notice that they were born preterm. Mothers also perceived their preterm babies to be stronger than term babies as they narrated that they spend most of the time without them and feel their babies have developed a bit of independency compared to a term baby. Mothers narrated;

*“My baby is a blessing from God I like him, you never know what has happened unless you are the mother” P9.*

*“My premature baby has shown me the greatness of God and that preterm babies are stronger than full term babies because I feel my baby has developed a bit of independency. Two hours he is alone and I come and spend 1 hour with him” P10.*

*“She is just like other babies it is just that she is small. I feel she is going to grow and be like other babies without any problem. Even when she has grown up, no one would point at her or say this baby was once admitted to NICU or was born a preterm” P5.*

Mothers of preterm babies also perceived their babies to be just okay and as babies that did not get chance to fully develop, will grow and get out of NICU and become fully functional and part of the society. Additionally, mothers perceived caring for a preterm baby as not a negative experience once they interact with them. To evidence this mothers narrated;

*“They are just okay. They are just babies who did not get the chance to fully develop...because most preterm babies actually grow and get out of NICU and become fully functional and part of the society” P7.*

*“I think when you are being told that you are going to have a premature baby, what comes to your mind is that it is going to be very difficult and become scared...but when you interact with your baby it is not it's not that bad” P12.*

#### **4.2.1.6.2 Perceived vulnerability of a preterm baby**

The study findings revealed that mothers of premature babies perceived their premature babies to be sensitive reported that whatever they do, they had to maintain hygiene. They further perceived their premature babies to be at risk of infections due overcrowding of the NICU, PMH. Mothers also perceived their premature babies to be fragile, underdeveloped and afraid to do KMC that their babies might fall when they try to hold them. To confirm this mothers narrated;

*“These babies are really sensitive whatever you do, you need to focus more on the baby. Hygiene is very most important because it can cause infections if we do not practise it” P6.*

*“The space is not giving, there is overcrowding which can lead to infections as it is happening right now, so something must be done... For example let us say your baby is*

*doing well and there is overcrowding, there are infections, some of the babies are infected they can transmit some of the infections' P2.*

*'She was very small...I was afraid to kangaroo her because I thought that maybe when I hold her she would fall' P5.*

*'Her physical features were difficult because you were looking for yourself in there and we are dealing with a baby that is not fully developed so, they still looking quite different from what you will expect and fragile' P3.*

#### **4.2.1.6.3 Societal Stigma and misunderstanding of prematurity**

The study findings revealed that one of the mothers sensed the negative perception towards preterm babies from the society, criticizing preterm babies and their mothers. Mother reported that the society perceived preterm babies as babies who are not fine somehow, growing in a glass and babies with small heads. She further reported that society perceived that maybe there was something wrong, when a mother has premature baby. Consequently, mother urged the society to refrain from having negative perception towards preterm babies as these are babies who have complications that can be addressed effectively with the right care and expertise from healthcare professionals. In line with the findings P7 stated;

*'I would encourage people to avoid negativity towards preterm babies, when you tell someone that you have a preterm baby, they would say "ke ba ba mabotlolo ba" meaning these are babies who are kept in a glass. "Ba ba di tlhogonyana" meaning those with small heads... people have misconception that a preterm baby is a baby who is not fine somehow and there was something wrong, there was nothing wrong with the baby it is just complications that can be made right with the right people, which is the doctors and the nurses.'*

#### **4.2.1.6.4 Variability in Hospital care and support**

The study findings revealed that mothers of preterm babies had different opinions towards hospital care in government, private and parastatal hospital. Mothers who were hospitalised in a private and parastatal hospitals and then brought to NICU, PMH perceived the difference in hospital care and support such as provision of educational

information prior to medical procedures and provision of resting time whilst nurses fed their babies during the resting time in private and parastatal hospitals. They perceived the absence of informational education prior some medical procedures and lack of enough rest in a government hospital. This is what mothers had to say;

*‘It was very different from private because in private, before they do anything they will call you... the doctor was telling me how the machines work and what they are doing to the baby... staff was very friendly and supportive but here, you find them already done...So the first morning, when I came to see the baby, I found the baby with a tube, his mouth twisted to the side. No one was explaining to me and everyone seemed to be busy, they did not want to be asked questions’ P8.*

*‘In Sir Ketumile Masire Teaching Hospital they gave us resting time because the last time you would feed a baby was around 12 am, 3am it was done by nurses, then go for 6am feeding hour...In that way at least one session at night would be better. So since in PMH the night session is at 1am and 4am, I am required to go for feeding sessions...so if they could say we come at 1am, and 4am we should not come in order to rest.’ P10.*

Additionally the study findings revealed that some mothers of preterm babies felt that some of the information about their babies is being hidden from them, such as baby skipping antibiotic treatment for two days and not being informed about it. Other mothers reported that they felt their babies are not getting the care they anticipated. They expressed that they expected that each baby would be assigned a nurse providing individualised care, however their responses were inconsistent, one nurse would provide reassurance while others would convey alarming information about the baby, resulting in dissatisfaction. Additionally, they reported that sometimes they found their babies vomited and the sheets they vomited on, not changed which resulted in them perceiving that their babies are not getting enough care. To evidence this mothers lamented;

*‘My baby was supposed to take antibiotics for 14 days but she skipped two days without a cannular. So, no one came to me and told me that your baby skipped two days without taking antibiotics. So I feel some of the things, they are hiding them from us’ P2.*

*‘I feel my baby is not being given the care that I expected...I expected that each baby would have their own nurse who would be caring for them. Now there are different nurses taking care of our babies, you meet this nurse she gives you the glory that your baby is fine and not sick, then another nurse would tell you that your baby needs light and that is the time that I know my baby is fine. So, it is a challenge and I end thinking that they are not being given enough care. Sometimes you can find that your baby has vomited and the sheets that the baby vomited on, are not changed’ P5.*

Contrary to that, other mothers perceived good hospital care in NICU, PMH they reported that the health care system is not failing them and expressed appreciation for initiatives such as breastfeeding café and timely response in assisting their babies when they encounter any problem. To evidence this P7 narrated;

*‘In terms of care they do a lot here at PMH, even that breastfeeding station, that is just great, nobody would have thought of doing that...So our health care is not failing us. I am glad to see the initiatives coming, team of doctors coming to see the baby, different doctors who saw the baby. It is good because if the baby encounters problems they notice well in time and help the baby faster’.*

#### **4.2.1.6.5 Variability in health care Staff behaviour and attitudes**

The study findings revealed that all mothers of preterm babies perceived the difference in health care staff` behaviour and attitude. Most mothers reported perceived difference in nurses` characters and some were perceived friendly and more helpful while some nurses were perceived to be moody. Additionally, mothers perceived that there were nurses whom they felt comfortable and uncomfortable approaching for assistance. They also perceived that there was also staff members that when they were on duty, they would be happy and at ease while other staff members they would be worried and have fear for negative outcome when they are on duty. Mothers perceived doctors to be friendly and supportive. To confirm this, mothers lamented;

*‘Even the nurses, there are some who are very friendly and welcoming and there are those who are impatient but the 4 weeks duration that I have been here, obviously I did get*

*to learn the nurse I am comfortable asking for help from, that she will be patient with me and this one I will wait for the next shift to ask a different nurse' P10.*

*'There is staff that when they are working, I am fine I can sleep and all that but now there are some characters that when they are on duty you fear, you are afraid that you might find or be told something else...doctors have been supportive and friendly' P11.*

#### **4.2.1.6.6 Resource perceptions**

As mothers navigated their journey in NICU, they sensed, interpreted and evaluated the resources available to them. The study findings revealed that most mothers reported perceived limited resources in NICU. They expressed the need for resources especially the saturation monitors etc. which aggravated the fear and anxiety of their babies' demise while waiting for equipments to assist them. Mothers lamented that the limited resources in NICU has resulted in sharing of equipments among cubicles which exacerbated the fear of cross infections to their babies. To confirm this, mothers narrated;

*'The machines are not enough and you will find that only one monitor is used in the rooms and that other monitors have been sent for maintenance...imagine when the baby is very sick and they start looking for a monitor, taking a long time for the baby to be assisted. There was a high possibility of baby dying while waiting to be assisted' P4.*

*'Sometimes I do hear nurses from ICU coming to Prem cubicle to get the monitor or from isolation to get a monitor from Prem cubicle. As a result I feel it is not good and they should be increased because they could bring infection to babies.... If the monitors can be increased it can help reduce the infections' P5.*

Congruently, mothers also perceived the need for education and rehabilitation centres while caring for their babies in NICU in order for them to be empowered while caring for their babies. All mothers of preterm babies perceived the need for psychological support to soothe their emotions owing to emotional turmoil they undergo while caring for their babies in NICU. This was exacerbated by the grief experienced by mothers, when other mothers they had formed a relationship with, lose their babies along the way. To evidence this mother lamented;

*“We need to be taught how to hold the baby, how to care for our babies during the first days because our emotions will be high”P6.*

*“We need to find the space where both the hospital staff, policy makers and community can cushion these mothers, rehabilitation centres. We need rehabilitation, counselling beyond one hour interaction with the doctor and psychologist, to recover and reduce our emotional trauma’P3.*

*“It would be nice to, maybe if we had somebody to encourage us and to relieve us from depression because this situation where the other mother lose her baby on the way when you used to wake each other up, every day to feed the baby and thought we would all be discharged home with our babies. At least if they can soothe our emotions even for just 5 minutes someone trying to provide psychological support’P7.*

Mothers of preterm babies perceived the need for training of staff members to be taught how to care for mothers of premature babies. They further expressed the need for a bigger portion of hospital food to enhance their milk production as they reported that eating stimulated their milk production. Additionally, mothers lamented that increased spending on baby necessities and food led to financial constraints compounded by delays in hospital breakfast which hindered their milk production.

*“We need more emotional training of staff members, on how to deal with the mothers of premature babies’P3.*

*“We are breastfeeding mothers hence we have to be given a bigger portion of food for us to have more milk production...I have already spent roughly P2000.00 in one month on food and baby`s stuff...they dish the food as if they are teaching a 2 year old child how to feed, and the food also comes late especially breakfast the soft porridge comes at 10 am. If I don`t eat there is no milk production at all”P10.*

Additionally, mothers of premature babies perceived the need for privacy in order for each baby to have their own space to prevent overhearing other babies` conditions, as this heightened mother`s fear for their babies survival and cross infection in NICU. Finally, mothers perceived the need to increase the number of doctors.

*‘I wish the number of doctors working in NICU could be increased. Infrastructure is difficult but I wish the space in NICU could be increased and each baby can have their own room and space’ P4.*

#### **4.3 Conclusion of Findings**

Six major themes were revealed in the study comprising of subthemes and various codes which answered the general objective; what are the experiences and perceptions of mothers of premature babies while caring for their babies in the NICU, PMH. The study findings unconcealed that mothers of preterm babies experienced Unfriendly NICU environment highlighting the restrictive NICU access, inadequate mother baby interaction, scary and unfamiliar equipments/procedures. Maternal Emotional Turmoil and Resilience in the NICU was explored, mothers of preterm babies exhibited various emotional experiences such as emotional overwhelm and breakdown, maternal isolation and support needs, fear and anxiety related to baby`s health, shock and sadness, hope and resilience, maternal curiosity and empathy, mixed and positive emotions while caring for their babies in NICU,PMH. A difficult preterm baby care journey emerged as a main theme underlining the physical, emotional and psychological challenges mothers of preterm babies undergo such as maternal unpleasant and unusual maternal experience, maternal physical and mental exhaustion in NICU, unfulfilled expectations in NICU and paucity in emotional and psychological support.

Information and communication needs was explored also which emphasized the inadequate staffing, lack of information and staff mother interaction in NICU which showed that the experiences of mothers of preterm babies are also shaped by collaboration with the NICU staff. Support system and coping mechanism was evident in the study highlighting the support systems and relationships including coping strategies mothers of preterm babies employed in NICU, to overcome challenges where most support was from the family which helped mothers navigate their difficult journey in NICU. Mother`s positive and negative perceptions of NICU environment and preterm baby was explored, and mothers of preterm babies perceived vulnerability of their preterm babies, they had positive perceptions towards their preterm babies, societal stigma and misunderstanding of prematurity was discussed, variability in hospital care and support, variability in staff behaviour and attitudes and resource perceptions were also discussed. The study findings

underscores the need for physical, emotional, social and psychological support, information, education and communication needs, resources in the NICU, PMH which will assist mothers of premature babies as they navigate their journey in NICU, PMH.

## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS**

#### **5.1 INTRODUCTION**

The chapter discusses study findings on Experiences of Mothers with Premature Babies admitted in Neonatal Intensive Care Unit at Princess Marina Hospital Gaborone, Botswana. The discussion is centred around several key themes; Unfriendly NICU environment, Maternal emotional turmoil and resilience in NICU, A difficult premature baby care journey, Information and communication needs, support system and coping mechanism, Mothers positive and negative perceptions of NICU environment and preterm baby highlighting the main findings of the study. The experiences and perceptions expressed by mothers, provides insight into a deeper understanding of the physical, emotional and psychological demanding journey of caring a premature baby in NICU. Relevant literature is utilised to provide a comprehensive understanding of the findings. Recommendations and limitations of the study are also highlighted and will conclude the chapter.

#### **5.2 Demographic characteristics of participants**

The study findings revealed that majority of mothers were aged between 20-31 years and more than half of mothers were employed. This corroborates with findings of Gulshan et al. (2023) in Pakistan where majority of the participants were young adults and employed. This may have implications on the mothers` experiences and perceptions where young mothers` perspectives may differ from those of older mothers. Lomotey et al. (2020) in Ghana revealed that young mothers compared with older mothers complained of the unfriendly attitude of some nurses. Additionally, the current study findings may have implications on the mothers` experiences and young mothers are more likely to be depressed compared to older mothers. Leahy-Warren et al. (2020) in Ireland, revealed that women aged 35–39 years had a significantly lower level of depressive symptoms compared to women aged 20–29 years. The current study findings indicated that all mothers were Christians. The uniformity in religious affiliation may somehow affect the

mothers` experiences and perceptions while caring for their babies in NICU. Guys and Beger (2021) in South Africa, indicated that religion was crucial in how participants` made sense, interpreted and understood the premature birth and provision of emotional support during their hospital stays.

The study findings also revealed that all mothers attended school and majority (58%) attended school up to tertiary education. This is consistent with Hariati et al. (2023) in Indonesia, where all mothers attended school and majority attained tertiary education. This may have implications on the mothers experiences as they navigate their journey in NICU and may somehow influence the comprehension and curiosity about their babies medical diagnosis, treatment and procedures. Orapeleng et al. (2024) in Botswana revealed the association between maternal education and stress and a possible explanation was a highly educated mothers` higher awareness and knowledge about their neonates, and accessibility to additional information in the internet leading to maternal distress.

It is noteworthy that majority (83%) of mothers were single mothers. In line with the current findings, Statistics Botswana (2022) indicated that forty four percent of households in Botswana are headed by females and female headed households tend to be larger than male headed households. This suggests that majority of participants might experience lack of emotional, physical and financial support from the baby`s father consequently adding to the divergence experience of premature baby care. Majority of babies in the current study were females. Statistics Botswana (2022) showed that there is a slightly higher female to male population ratio in Botswana. Implications to the current study findings could be a higher survival rates among female preterm babies than males. According to Gezmu et al. (2021) in a study conducted in Botswana and South Africa, neonates born with male sex and very low birth weight status doubled the probability of deaths.

## **5.3 Experiences of mothers of premature babies while caring for their babies in NICU**

### **5.3.1 The Unfriendly NICU Environment**

The current study findings revealed that mothers of preterm babies described the NICU to be restrictive and inaccessible to family members due to restriction policies which allows only the mothers in NICU on a scheduled period. This is consistent to studies by Cecagno et al.(2020) and Ncube, Barlow and Mayers, (2016) who pointed out that, the NICU environment creates a barrier for the family which is the context within which an intimate link between parents and infant is made. Similarly, Apedani et al. (2021) also noted that other family members were not allowed to enter the NICU as per hospital policy, mothers could meet their relatives outside NICU during visiting hours. Contrary to the current study findings, Apedani et al. (2021) further indicated that mothers are allowed to visit their babies at any time and they could stay as long as they desire and fathers are accessible to their babies with limited hours in the morning. The difference could be attributed to limited infrastructure in NICU, PMH as emphasised by Gezmu et al. (2021); Nakstad et al. (2021) that NICU, PMH faces significant issues such as limited space and overcrowding.

On the other hand, while mothers of preterm babies in the current study felt NICU was unfriendly due to restrictive NICU policies, Hariati et al. (2023) in Indonesia, revealed that mothers of preterm babies postponed visiting their infants in the NICU roughly for a week, during which only their husbands visited their babies. This indicates that the baby`s father had access to NICU which is contrary to the current study findings and reflects the differences in hospital policies and cultural norms across the NICU settings. According to Heydarpour et al.2017 as cited in Alinejad-Naeini, Peyrovi and Shoghi (2020) experiences of mothers are influenced by cultural context.

The current study findings also indicated that mothers had inadequate bonding due to separation from their babies and limited time, resulting in mothers yearning for bonding, worried about their babies and leaving mothers with a feeling of loss of parental identity. This corroborates with the previous study findings of Lomotey et al.(2020);Hanson et al.(2020) which also indicated that mothers of premature babies felt as if they were

excluded in their baby's care and needed more time with their babies due to restricted time. Concurrently, Amadu et al. (2023); Gulshan et al. (2023); Pinar and Erbaba (2020) demonstrated that participants emphasised the need for adequate time to bond with their infants. Similarly, Orapeleng et al. (2024); Martins et al. (2022); Buil et al. (2016) indicated that separation of the baby from the mother resulted in poor attachment and bonding.

Contrary to the current study findings Hariati et al. (2023) indicated that mothers of preterm babies observed their babies behind the room's glass window and reported to be unprepared to interact and bond with their babies. The current study findings highlight the need for increased space in NICU, PMH to promote adequate interaction and bonding of mothers and their preterm babies which would aid in growth and development of preterm babies. Cecagno et al. (2020) stated that within the family environment, the child's first relationships are formed, playing a crucial role for their physical and psychological development. Steyn, Poggenpoel, and Myburgh (2017) added that adequate bonding is the foundation for healthy parent-child relationships and equally serves as the basis for the premature babies' mental health.

Additionally, the current study findings pointed out that most mothers of preterm babies were scared and unfamiliar with the equipments and invasive procedures in NICU. They were frightened by the alarming machinery and feared for the survival of their babies, some were scared due to seeing critically ill babies and the demise of other babies. Similar results have been documented in Hariati et al. (2023) who revealed that mothers of preterm babies were frightened with medical equipment, which delayed them from interacting and being involved in the care of their babies. Congruently Gulshan et al. (2023); Amadu et al. (2023); Lomotey et al. (2020); Ncube, Barlow and Mayers, (2016) highlighted that, the neonatal environment increased the mothers' fear, anxiety and delayed development of a relationship between mothers and their babies. Similarly, Namusoke et al. (2023) indicated that mothers were worried about the survival of their babies and witnessing the death of other babies, left mothers in suspense about the survival of their preterm infants.

The increased fear due to loss of other babies could be attributed to increased preterm mortality in the NICU, PMH as indicated in chapter 1 (NICU, PMH Annual reports, 2020-2023). Study findings also revealed that mothers were uncomfortable and unfamiliar with

the procedures done on their babies and noise from machines which triggered their stress and aggravated fear to lose their own babies. This is in line with the previous study findings of Hanson et al. (2020) which noted that mothers of premature babies were scared on the first encounter with their babies in NICU where babies were surrounded with machines, tubes in mouth, nose and other gadgets. Concurrently, Ncube, Barlow and Mayers (2016) in a similar setting, echoed that the unfamiliar, intimidating environment of the neonatal unit exacerbated mothers' anxieties and the equipments obstructed easy contact. Despite the previous study conducted in a similar setting, the problem still persists. The findings underscore the need for orientation and education of mothers, about NICU equipments to aid in alleviating their stress and anxiety.

The implications of the study findings underscore the affectional nature of human beings when subjected to any environment that deprives them of their free will. Despite the cultural, geographical, social and healthcare system variances, the emotional impact of the NICU environment is a communal thread. This emphasises the need for developing universally applicable all-encompassing and culturally sensitive support systems for mothers of premature babies in NICU environments. This could pertain to personalised interventions such as orientations and addressing anxiety which would promote coping strategies.

### **5.3.2 Theme 2 Emotional turmoil and Resilience in the NICU Environment**

It has emerged from the study findings that mothers of preterm babies in NICU, PMH experienced different emotions while navigating their journey in NICU, PMH. The current study findings have been verified in other studies. In line with the current study findings, Gulshan et al. (2023); Lomotey et al. (2020) echoed that mothers expressed different types of emotions, both negative and positive emotions such as fear of negative outcome, worry, anger, tension, depression related to unknown outcome of the delivery and admission of the baby in NICU, sense of guilt and excitement depending on the situation mothers of preterm babies were faced with and their emotions were influenced by their thoughts. Congruently, Ncube Barlow and Mayers (2016); Hariati et al. (2023); Pinar and Erbab (2020); Shrestha et al. (2020) showed that mothers of premature babies experienced emotional crises from denial to feelings of despondency, including being frightened,

shocked, between hope and hopelessness, worried, stressed. Similarly, Hanson et al. (2020) demonstrated that mothers of premature babies exhibited emotions such as anxiety, anger and sadness.

The current study findings corresponds also with the findings of Namusoke et al. (2021) in Uganda who echoed that women with preterm babies were worried, uncertain about the survival of their babies, anxious while caring for their own babies and had fear to lose their babies aggravated by increased mortalities in the NICU. Several studies also revealed that mothers of premature babies had fear of losing their babies (Martins et al.,2022;Lomotey et al.,2019;Brodsgaard et al.,2019).The increased fear among mothers of preterm babies could be attributed to increased preterm mortality in NICU, PMH as indicated earlier. Moreover, NICU PMH is a national referral hospital with advanced neonatal care thus, most of the periphery hospitals admit babies to NICU, PMH for advanced neonatal care consequently resulting in overcrowding.This could be another contributing factor, aggravating the fear among mothers of preterm babies in NICU, PMH.

This underscores the need for increased space in NICU which could aid in reducing overcrowding and spread of infections in NICU. Nakstad et al. (2021) pointed out that healthcare facilities should recognise that additional space and staff is a critical infection prevention and control intervention and is likely to be cost-effective in the long run. Consequently, this could aid in reducing neonatal mortalities and aid in alleviating maternal fear and anxiety associated with mortalities in NICU, PMH. Additionally, the increased fear and anxiety among mothers of preterm babies could be an alarm for emotional and psychological support in NICU, PMH. Therefore this underscores the need for psychological and emotional support in NICU.

Moreover, in the current study findings mothers of preterm babies isolated themselves especially during the first days of their baby`s admission due to emotional distress and they only talked to their family members. This was documented in a similar study by Hanson et al. (2020) in United Arab Emirates, which pointed out that mothers of preterm babies were depressed with lots of emotions, but got enough support from their families. This could be attributed to mothers having a feeling of neglect due to health care providers focusing more on babies. Ghai and Deepak (2022) asserted that parental stress in NICU is

often a neglected area as much of the caregiving is centred on infants. Similarly, Gulshan et al. (2023) indicated that the health care system is more focused on a premature baby. This could be a source of maternal isolation. The study findings emphasises the need for social support. Leahy-Warren (2020) reported lower levels of depressive symptoms from social support among mothers of preterm babies.

The current study findings revealed anxiety was triggered by NICU calls, as mothers became more worried and had fear of negative outcome when they were called to NICU. This closely aligns with Lomotey et al. (2020) findings which highlighted that mothers were anxious about premature delivery and afraid of possible infant death. Similarly, Alinejad-Naeini, Peyrovi and Shoghi (2020) in their grounded theory in Iran, echoed that mothers of preterm babies often reported the lack of hope for their baby's future and the unknown future which led to anxiety and turmoil. Contrary to the current study findings Amadu et al. (2023) in Ghana revealed that mothers of preterm babies felt less anxious and reassured as they were informed about their baby's diagnosis and treatments performed on their babies. The heightened emotions among mothers of preterm babies could be attributed to lack of information, emotional and psychological support in NICU.

The current study findings revealed that mothers experienced shock on their first encounter with their babies and surprised to find their babies surrounded by machines with breathing complications. Additionally, mothers were unhappy as they hoped to deliver their babies at term, felt sad due to how events unfolded in NICU and expressed self-blame for preterm delivery. The findings closely aligns with Buys & Gerber (2021); Achrya et al.(2020); Shrestha et al.(2020) who indicated that mothers perceived feelings of shock or disbelief at their babies' low birth weight at birth with small size, which led to mothers distress. Similarly, Alinejad-Naeini, Peyrovi and Shoghi (2020) revealed that self-blame and guilt were other prevailing feelings reported by mothers as a result of preterm birth. Shock and surprise among mothers of premature babies could be attributed to lack of emotional and psychological preparation prior birth of a premature baby. Self-blame among mothers of premature babies could be attributed to lack of knowledge about preterm delivery. Deepak and Ghai (2022) indicated that knowing what to expect assist

parents to navigate with the stress of having premature baby and the fear of uncertainty related to the health and well-being of their babies.

Despite this, mothers of preterm babies became hopeful when they saw their babies improving and seeing them for the first time. Congruently, Lomotey et al. (2020) evidenced that improvement in baby's condition gave mothers' joy and hope. The current study findings indicated that trauma and confusion ensued due to lack of information and updates about their babies in NICU. As a result of curiosity, mothers contravened the hospital policies to access information from their babies' medical files to cope and adapt in NICU environment and were able to understand and ask some questions. This could be attributed to mothers being educated, as according to the current study findings majority of mothers attained tertiary education hence a possible increase in curiosity and comprehension. Orapeleng et al. (2024) also supported this, as they evidenced that maternal education was significantly associated with maternal stress due to highly educated mothers' higher awareness and knowledge leading to accessibility to additional information.

Implications of the current study findings underscores the need for a comprehensive support system inclusive of constant spiritual, emotional and psychological support in NICU, PMH. This may possibly aid in calming the intense emotions mothers of premature babies encounter while caring for their babies in NICU. Hanson et al. (2020) revealed positive experiences of receiving psychosocial support from the health care staff by mothers of premature babies. Spiritual and family support helped mothers overcome their psychological problems (Acharya et al., 2021). Provision of mothers with information and reassurance could also aid in calming the heightened emotions of mothers. According to Deepak and Ghai (2022) providing appropriate anticipatory guidance about what to expect when their babies are admitted to the NICU are essential aspects of nursing care provided to parents in the NICU.

It is worth noting that, understanding of the mothers experiences by health care providers in NICU for effective and applicable interventions could enhance the emotional and psychological well-being of mothers of premature babies while caring for their babies across diverse settings. This was also emphasised by Guys and Beger (2021) in South

Africa, that psychological impact of preterm birth on the mother underscored the need for hospital staff to support mothers of preterm babies during this time. In addition, Morey and Gregory 2012 as cited in Deepak and Ghai (2022) showed that touring the NICU prior labour and delivery decreased fear, instilled hope for the outcome of the baby and prepared mothers of premature babies emotionally. Therefore the tour of mothers once they are informed that they will deliver a preterm baby to NICU could aid in alleviating the mothers emotional turmoil while caring for their babies in NICU.

It is important to deduce that mothers experienced fluctuating feelings throughout parenting their babies in the NICU. Therefore, once the baby's condition is stable, early emotional and physical interaction need to be promoted to foster mother-infant relationship and initial independence in motherhood. This can further be enhanced by formation of special clubs for mothers with premature babies where specific skills and issues affecting them and their babies can be discussed even after the baby has been discharged from hospital.

### **5.3.3 Theme 3 A difficult Preterm baby care journey**

The study findings revealed that some mothers of premature babies experienced unpleasant and unusual occurrence due to miscommunication, which led to one of the mothers feeding a different baby as babies were swapped while the other mother was misinformed about her baby's demise. This encounter left most mothers emotionally devastated and regarded the care of a premature baby as a difficult journey. Russell et al. (2014); Hanson et al. (2020); Amadu et al. (2023) revealed that hospitalisation of a neonate is often difficult and extremely stressful for mothers. The findings demonstrated the difficulties mothers of preterm babies undergo compounded by the complications of prematurity such as respiratory complications. Deepak and Ghai (2022); Pinar and Erbaba, (2020); Cheong et al. (2020) evidenced that, preterm birth is a potentially stressful, unexpected and multi-problematic event which may come with neonatal respiratory problems, jaundice, hypothermia, feeding problems and infections. Despite this, it is highly unusual and unpleasant for a mother to be informed that her baby has demised and later on discover that the baby is alive.

Comparatively to other studies reviewed, none of the studies reported that mothers experienced or encountered swapping of the baby or were misinformed about the baby's death which is one of these study's findings. However, Amadu et al.(2023) indicated that mothers of premature babies had unpleasant experiences with the medical and nursing staff in NICU not owing to baby swapping and misinformation about the baby's demise. This highlight a critical gap in understanding maternal experiences suggesting the need for heightened awareness and policy interventions to prevent such cases. Additionally, this underscores the need for further research to determine the cause and prevalence of these incidents across diverse populations and healthcare settings.

It is also notable in the current study findings that the delivery of a preterm baby shatters the mother's hopes and expectations of having a healthy term baby, therefore many expectations are unfulfilled. This is consistent with previous study findings of Amadu et al. (2023); Gulshan et al. (2023) which indicated that the hopes and excitement of having a healthy full term baby are shattered once mothers` deliver a premature baby because it was unexpected. Similarly, Cecagno et al. (2020) highlighted that mothers of preterm babies were frightened, probably due to the interruption of dreams and idealisation regarding a term pregnancy. It is the hope of the mother to deliver a term baby once they fall pregnant, and they are often filled with happiness. Tatterton and Fisher (2023) asserted that the anticipation of welcoming a new baby is usually a time of great excitement for parents and families. However, when a baby is born prematurely the experience can be complicated with a mix of emotions. Moreover, Alinejad-Naeini, Peyrovi and Shoghi (2020), revealed that mothers imagined dreams and hopes for their neonates and preterm birth lead to shock and disappointment.

The current study findings pointed out that unexpected deterioration in the baby's condition compounded mothers stress leading to emotional breakdown, isolation and loss of hope hence regarding preterm baby care journey as difficult and challenging. Congruently, Orapeleng et al. (2024) indicated that mothers with babies admitted in NICU, PMH did not cope well when their babies` condition changed. Correspondingly, Hariati et al. (2023) pointed out that some mothers were always observant, alert and panicked each day if a value on the monitor went up or down. The fluctuations in babies`

condition made it difficult for parents to know what the future will bring (Steyn, Myburgh and Poggenpoel, 2017). This shows the difficulties mothers of premature babies experienced each time there was a deviation from what is expected or change in the baby's condition, subsequently triggering emotional distress among mothers of premature babies. Understandably, this could be aggravated by physical and psychological changes that occur during the puerperium period. Spinelli et al. (2016) as cited in Leahy-Warren et al. (2020) pointed out that, mothers may have to bear the trauma and physical consequences of experiencing an emergency birth and being psychologically unprepared for the abrupt arrival of their new born, eliciting a variety of emotional responses.

Moreover, the study findings showed that mothers of premature babies described NICU to be physically draining and tiring, exacerbated by lack of rest while some mothers described it to be mentally draining, stressing and overwhelming as they had to express milk before the next feeding hour instead of resting. Martin et al. (2022) echoed similar findings where a qualitative and quantitative study in Brazil revealed that mothers of premature babies expressed impaired self-care and daily fatigue due to constant milking for their new-borns, affecting rest and perceived the NICU environment to be tiring. Similarly, Amadu et al. (2023); Ncube, Barlow and Mayers (2016) highlighted that the limited and frequent 3-hourly contact of mothers with their infants was stressful. Additionally, Alinejad-Naeini, Peyrovi and Shoghi (2020) indicated that mothers of preterm babies experienced severe emotional exhaustion after childbirth, leading to helplessness and lack of energy in performing their daily activities.

Contrary to the current study findings, Hanson et al. (2020) evidenced that mothers had adequate time to rest prior visiting their babies. This could be attributed to inadequate spacing in developing countries and difference in NICU settings. Orapeleng et al. (2024) argued that the difference in NICU settings between the developed and developing countries may be associated to common struggles in healthcare in developing countries such as understaffing and limited resources. Gulshan et al.(2023) asserted that developing countries are overburdened and have limited facilities. Therefore the current study findings emphasise the need for increased spacing in NICU to allow mothers to sleep with their babies and ensure adequate rest. This could aid in alleviating maternal physical and

mental exhaustion in NICU. Interventions encouraging less separation of mothers from their babies and adequate spacing of NICUs in developing countries could reduce maternal stress (Orapeleng et al., 2024).

The study findings revealed a significant gap in psychological and emotional support in NICU, PMH. Most mothers of preterm babies were emotionally overwhelmed and did not receive psychological support or counselling and it was difficult for mothers to openly request for counselling, due to the psychological trauma they underwent. Similarly, Ncube, Barlow and Mayers (2016) conducted a study in a similar setting, and also found lack of emotional support or counselling by staff in NICU, PMH which increased the mothers' anxiety. Deepak and Ghai (2022) also lamented that parental stress is often a neglected area in NICU. Similarly, Steyn, Myburgh and Poggenpoel (2017) in South Africa, indicated that some mothers were not able to request for help, isolated and difficult to express their emotions. Congruently, Cecagno et al. (2020) revealed that mothers of premature babies reported to be only familiar with the social worker and mostly needed someone to comfort them in times of distress.

Contrary to the current study findings, Martin et al. (2022) revealed that mothers of premature babies received psychological and emotional support and the daily guidelines provided by the professionals aided in improving their emotional aspects. Shreshtha et al. (2020) also documented similar findings, that mothers of premature babies received emotional support. This could be attributed to shortage of personnel in NICU, PMH. Understaffing is one of the major challenges in NICU, PMH (Nakstad et al., 2021). Limited resources is one of the challenges in developing countries (Orapeleng et al., 2024; Gulshan et al., 2023). It could also be attributed to NICU staff focusing more on the baby's medical condition and the mother's emotional and psychological aspects being left out (Deepak and Ghai, 2022; Gulshan et al., 2023; Hariati et al., 2023). Therefore mothers and their premature babies need to be treated as a whole.

Few mothers mentioned to have received emotional support from some nurses and doctors while only one mother was referred to a psychologist with the assistance of a private doctor and all mothers expressed the need for psychological support. In line with the current study findings, Apedani et al. (2021) indicated that despite mothers receiving

counselling from nurses and doctors, they expressed the need for professional counsellors as they reported unmet psychological needs by the NICU staff. Similarly, Robinson et al. (2023); Hanson et al. (2020) highlighted the need for psychological support to mothers with premature babies in NICU.

The current study findings demonstrates the persistence of a similar problem (lack of emotional and psychological support) despite the previous similar study in NICU, PMH. Therefore, the findings underscores the need to develop a proper platform for mothers of premature babies undergoing emotional and psychological challenges to be seen by a psychologist. Spellman (2019) highlighted the need for trained psychologists and counsellors for psychological services as nurses and doctors alone could not meet the needs of mothers of preterm babies in NICU. Similarly, Orapeleng et al. (2024) emphasised the importance of psychologist and counsellors in NICU, PMH. It is vital that the services are offered in a support network with multidisciplinary teams aimed at minimising challenges mothers and families undergo, while their babies are admitted in NICU (Cecagno et al., 2020).

Consequently, an organised support services by a multidisciplinary team of health professionals and mental health professional as well as spiritual leaders is required to meet the needs of mothers with preterm babies in the NICU. Thus, social workers, psychologists and pastors need to also form part of NICU team. Pinar and Erbaba (2020) indicated that mothers reported the need for a psychologist for mental support and a social worker for their social needs. According to Leahy-Warren et al. (2020) social support was associated with a lower level of depressive symptoms among mothers of premature babies. Steyn, Myburgh and Poggenpoel\_(2017); Pinar and Erbaba (2020) evidenced that spiritual support gave mothers of premature babies tremendous support and were able to overcome their emotional and psychological challenges. This would ensure holistic approach to meet mothers` needs.

#### **5.3.4 Theme 4 Information and Communication needs in NICU**

The current study findings revealed that inadequate staffing led to delayed updates, lack of attention from doctors and the need for communication about procedures done on the babies resulting in mothers feeling unsupported, compounding their emotional and

psychological challenges. Similarly, Namusoke et al. (2021) acknowledged that mothers needed support but it was hampered by the high patient-to-nurse ratio hindering effective communication between mothers and nurses resulting in maternal stress. Equally, Ncube, Barlow and Mayers (2016) study noted that mothers of premature babies were emotional since nurses in the NICU are often busy due to shortage of personnel and also mothers had limited time in the unit to ask questions. Pinar and Erbaba (2020) reported similar findings, that workload of health caring restricted nurses to adequately interact with the mothers.

Contrary to the current study findings, Hanson et al. (2020) revealed the continuous availability of skilled staff at all times which led to a trusted relationship with the parents. This could be attributed to variation in staffing levels across NICU settings and resource availability. The difference in NICU settings between the developed and developing countries may be associated with common challenges in healthcare in developing countries such as understaffing and limited resources (Orapeleng et al., 2024). It could also be attributed to NICU staff prioritising the critically ill babies due to inadequate staffing. Namusoke et al. (2021) stated that crowded NICUs are constrained by the time a single healthcare worker spend with each baby and mother leading to prioritisation of critically ill babies. Therefore the study findings underscores the need for increased personnel in NICU, PMH.

The study findings indicated that most mothers experienced lack of updates and orientation on their first days in NICU and stated that they were unable to get information at times from the nurses due to nurse`s uncertainty. Similarly, Ncube, Barlow and Mayers (2016) evidenced that inadequate orientation to the NICU environment increased mothers` anxiety. Congruently, Cecagno et al. (2020) revealed the lack of information prior visitation in the NICU by health care professionals. The findings are also consistent with Hariati et al.(2023); Namusoke et al.(2021);Lomotey et al.(2020);Pinar and Erbaba.(2020) and Shrestha et al.(2020) which revealed the communication gap between mothers in NICU and the nurses. Contrary to the current study findings, Hariati et al. (2023); Gulshan et al. (2023); Acharya et al. (2021): Hanson et al.(2020)Martins et al. (2022) revealed that mothers were provided with health information by NICU staff. Additionally, Amadu et

al. (2023) showed that the personnel supported mothers in various ways, inclusive of explanation of their baby's condition. The current study findings revealed that some mothers ended up accessing their babies' medical files and misleading online information due to lack of information. No study related to this findings in the previous literature reviewed however, Hariati et al. (2023) revealed that one mother of premature baby accessed online information which benefited her rather than misleading as it was the case in the current study findings. The difference could be attributed to difference in staffing across NICU settings as elaborated earlier. Therefore, ensuring adequate staffing across NICU settings could aid in ensuring timely information provision and effective communication between nurses and mothers.

The study findings also highlight the need for NICU staff in PMH, to acknowledge the challenges mothers of preterm babies incur due to lack of information and act accordingly by providing timely updates and explanation about the baby's condition to mothers. Yu et al. 2019 as cited in Alinejad-Naeini, Peyrovi and Shoghi (2020), stated that health care professionals need to appreciate the experiences of parents as they face significant challenges as they navigate their long journey in NICU of preterm neonates. This could empower mothers to be confident while caring for their babies, clear their confusion and aid in alleviating their stress. Amadu et al. (2023); Apedani et al. (2021) corroborated that, the provision of education and demonstration to mothers of premature babies on how to care for their babies led to mother being confident.

The implications of information and communication challenges in NICU is significant. Thus, acknowledging the impact of timely information provision and communication is key to ensuring mothers of premature babies easily adapt to NICU environment, ensures that a team of health professionals and mothers of premature babies make an informed decision on many matters pertaining to the care and treatment of the babies. Lomotey et al. (2020) asserted that nurses in NICU need to acknowledge the challenges faced by mothers and plan effective care to meet the maternal and infant needs. In addition, knowing the cohesiveness of effective information and communication can help allay or address anxiety and fear faced by mothers in NICU. Effective communication is crucial and alleviated emotional distress among mothers in NICU (Tatterton and Fisher, 2023).

Therefore, this highlights the importance of addressing the unveiled concerns and ensure timely provision of information to enhance the overall psychological well-being of mothers of premature babies across various settings. Consequently, a deliberate policy need to be formulated or modifying the existing one to fit in the identified gaps.

### **5.3.5 Theme 5: Support system and coping mechanism**

The current study findings disclosed that most mothers of premature babies` main source of support was from the family that provided them with the necessities they needed, daily phone calls and family's visitations aided in relieving the stress and navigating the NICU challenges. In line with the current study findings, Ncube, Barlows and Mayers (2016) reported that hospital visitations and phone calls by family members alleviated mothers` isolation and empowered them to be more attentive in the care of their babies. Shrestha et al. (2023) evidenced that mothers main source of support to cope in NICU was from their husbands and family. Similarly, Hanson et al. (2020) revealed that mothers of premature babies got enough support from their families when they felt anxious and depressed.

Contrary to the current study findings, Namusoke et al. (2021) revealed lack of support from family members when they delivered a preterm baby. Hariati et al. (2023); Steyn, Myburgh and Poggenpoel (2017) indicated that nurses were the most support for mothers of preterm babies while navigating their journey in NICU. Similarly, Apedani et al. (2021) indicated that mothers of preterm babies had a range of support systems that were available to them such as such as environmental, psychosocial, educational, inter professional support, nurses and doctors always visited and educated them. The difference in findings could be attributed to paucity in emotional and psychological support in NICU, PMH resulting in mothers resorting to family as the main source of support for comfort. According to Leahy-Warren et al. (2020) family has the potential to enable the indirect support to the mother and the baby experiencing lack of formal sources of support. Hanson et al. (2020); Ncube, Barlows and Mayers (2016) asserted that family support is crucial in alleviating maternal stress. Therefore the study findings emphasise the implementation of interventions promoting family centred care such as revision of NICU visitation policies to allow significant others in the care of the baby. Cecagno et al. (2020) highlighted that baby`s motor and psychological development is shaped within the family environment

through relationships with the family. Referral of mothers to a psychologist for emotional and psychological support as well as counselling in NICU would ensure comprehensive support and aid in alleviating maternal emotional turmoil and strengthen resilience in NICU.

The study findings revealed the lack of support from the partner during difficult times which triggered mother`s anger. In the previous literature reviewed, no study was found which is in line with this findings however, Shreshta et al. (2023) revealed the presence of support from the partner which is contrary to the current study findings. This difference in findings could be attributed to the cultural norms and beliefs across the countries and NICU settings where the father of the baby is not involved in direct care of the baby during the confinement period. In Setswana culture fathers are not directly involved in the initial care of the newborn baby, therefore their absence is not uncommon (Ncube, Barlows and Mayers, 2016). Additionally, majority of mothers in the study were single mothers. According to Statistics Botswana (2022), majority of households in Botswana are headed by females. This could be contributing factors to the absent father aggravating mother`s anger. Therefore the study findings underscores the need for social support also to ensure mother`s social needs are met. According to Leahy-Warren et al.(2020) social support was associated with a lower level of depressive symptoms among mothers of premature babies.

Interestingly, some mothers were comforted by other members of staff, which is the Security guards and cleaners, during the difficult times in NICU. No study in the reviewed literature which showed that mothers received emotional support from other staff members such as the cleaners and security ladies. This could be an indication of paucity in emotional and psychological support from the health care providers in NICU, PMH. Hanson et al. (2020) revealed that psychological state dominates physical stability and needs in a human being especially when they are stressed. This imposes a great challenge for the health care professionals to provide appropriate care and support for the mother to meet this emotional challenge. This could be one of the attributing factor to lack of support from the health care providers. Therefore this underscores the need for health care professionals to provide emotional and psychological support to mothers of premature babies.

The study findings revealed that mothers of preterm babies employed various coping strategies such as motivation from their babies, shared similar experience, being patient in NICU, praying amidst challenges and being self-reliant for information to overcome their emotional and psychological challenges while navigating their journey in NICU. In line with current study findings, Shrestha et al. (2023); Buys and Geber, (2021); Leahy-Warren et al.(2020); Amadu et al.(2023) Steyn, Myburgh and Poggenpoel (2017) indicated that mothers of premature babies were encouraged by having other mothers going through similar experience which helped in overcoming NICU challenges. Congruently, Hanson et al.(2020); Ncube, Barlow and Mayers (2016);Steyn, Myburgh and Poggenpoel (2017); Acharya et al.(2021) disclosed that mothers of premature babies also relied on their family support, faith in God and hope to cope in NICU. Ncube, Barlow and Mayors (2016) further stated that mothers became more confident as they interacted with their babies.

Contrary to the current study findings, Gulshan et al. (2023); Lomotey et al. (2020); Apedani et al.(2021); Ncube, Barlow and Mayers (2016);Shrestha et al.(2023) studies pointed out that the mothers' interaction with healthcare professionals and providing special skills in specific support areas empowered the mother's physical and mental well-being consequently enabling the mothers to cope well with the care of their babies in NICU. In the previous literature reviewed, no literature documented being patient in NICU and self-reliant for information as coping strategies. However, Hariati et al. (2023) evidenced that mothers were provided with information by healthcare providers and searched for information online which helped one mother to cope in NICU and be discharged home. The study findings indicates inadequate support from the health care providers in NICU. The difference in study findings could be attributed to communication gap and lack of information from healthcare providers. Salam et al. (2024) revealed that mothers reported lack of responsive and respectful, poor communication among health care providers which made it difficult to approach them for assistance. Lack of emotional and psychological support and inadequate staffing could also be aggravating factors. Salam et al. (2024) pointed out that lack of trained staff and equipment, inadequate referral system and disrespectful care were the challenges affecting service provision.

The above study findings underscores the need for development of a cordial therapeutic relationship between the healthcare providers and the mothers of premature babies. The referral of mothers to a psychologist would aid in alleviating the emotional turmoil and stress they undergo while navigating their journey in NICU. The family involvement in care and support of premature babies as well as peer support and spiritual support should be recognised as necessary in this complex journey of caring for a premature baby. Families need to be allowed in NICU, PMH which would aid in alleviating maternal stress. Further coping mechanisms need to be explored to ascertain universal applicability. Deepak and Ghai (2022) from their quasi-experimental research approach, revealed a significant reduction in the level of stress among mothers of premature babies following administration of the creating opportunities for parent empowerment (COPE) program on the stress, anxiety and coping ability of mothers of premature babies admitted in NICU.

#### **5.4 Perceptions of mothers of premature babies while caring for their babies in NICU**

##### **5.4.1 Theme 6: Mothers Positive and Negative Perceptions of NICU environment and preterm babies**

The study findings revealed that mothers of premature babies perceived their premature babies as delicate, fragile, developing, and whatever they do, had to be done cautiously and also ensuring good hygiene. This closely aligns with the findings of Namusoke et al. (2021) in Uganda who showed that mothers of preterm babies perceived their premature babies to be vulnerable and could be easily hurt by a feeding tube. Similarly, Buys and Gerber (2021) in South Africa indicated that mothers of premature babies perceived their babies to be medically vulnerable when they saw their babies in machines and tubes. They also linked procedures in NICU with their baby's medical vulnerability. The results could be similar as the studies were conducted in a similar region. The current study findings indicated that mothers of premature babies perceived their premature babies to be at risk of infections due overcrowding of the NICU, admitting beyond its capacity. In line with the current study findings Buys and Geber (2021) also pointed out that, upon discharge mothers expressed concerns about their infant's medical vulnerability and afraid that they will get infections.

Additionally, Shrestha et al. (2020) concurred that mothers of preterm babies perceived their new borns to be having respiratory problems, infections and jaundice and required extra therapies and interventions. The reason for the current study findings could be attributed to PMH, NICU being a national referral hospital which admits babies from all over the country owing to the presence of specialists and advanced medical equipment consequently lead to overcrowding. In Botswana the NICU, PMH faces challenges such as limited space and overcrowding (Gezmu et al., 2021; Nakstad et al., 2021). The reason for similar findings could be attributed to both studies being conducted in developing countries. Developing countries have limited facilities and are overloaded (Gulshan et al., 2023).

According to Deepak and Ghai, (2022); Pinar and Erbaba, (2020); Cheong et al., (2020), preterm birth is a potentially stressful, unexpected and multi-problematic event which may come with neonatal respiratory problems, jaundice, hypothermia, feeding problems and infections. Hence, this could be attributed to mothers` perceiving vulnerability of their premature babies. Additionally, majority of mothers in the current study were feeding their babies via feeding tube which could be another factor exacerbating the perceived vulnerability of their babies. Moreover, the study was conducted in Sub Saharan Africa with the highest neonatal mortality hence could also be another factor aggravating the perceived vulnerability of their premature babies. According to World Health Organisation (2024), Sub-Saharan Africa has the highest neonatal mortality rate in the world with 27 deaths per 1000 live births and 30% of global live births, followed by Central and Southern Asia with 21 deaths per 1000 live births. Namusoke et al. (2021) revealed that increased mortalities in the NICU aggravated the mothers` fear to lose their own babies.

In spite of the complexities of premature babies, mothers of premature babies remained optimistic, they had a positive outlook and hoped for the best for their premature babies. They believed their babies to be a blessing from God and to be like any other babies except for their body size and stronger than term babies. This findings concurs with the findings of Amadu et al. (2023); Ncube Barlows and Mayers (2016) which revealed that despite their babies being small and preterm, they were much like any other baby. Contrary to the

current study findings Salam et al. (2024) perceived severity of illness for their babies and most mothers frequently mentioned that preterm newborns were small, weak, and less mobile. The difference in study findings could be related to different cultural norms and beliefs. Despite the previous study findings of Namusoke et al.(2021) in Uganda, which indicated the absence of study where mothers of preterm babies were worried about what community members thought about preterm babies. Interestingly, the current study findings revealed that, though mothers of premature babies were optimistic about their premature babies, some mothers were worried that society reacted negatively towards their premature babies associating them with incubators, criticising preterm babies and the medical complications they may go through. As a result, mothers urged society to refrain from having negative perceptions towards premature babies because these babies are able to grow and become functional in the society.

Additionally, Namusoke et al. (2021) indicated that the community did not value premature babies the way mothers of premature babies do. This was agonising and insensitive to mothers of premature babies. They further reported that people used to ask one mother what she was carrying even though they were aware that she was carrying a baby. This could be attributed to lack of knowledge about prematurity in the community. This underscores the need for community sensitisation about prematurity through targeted prematurity campaigns, annual celebration of world prematurity day. According to WHO (2024) World Prematurity Day is celebrated every year aimed at raising awareness on the challenges that preterm babies encounter and accentuating the risks and consequences encountered by preterm babies and their families worldwide. This could be vital in educating the public and raise awareness about prematurity which will dispel the myths and misconceptions surrounding premature births and reducing stigma faced by mothers of premature babies and fostering acceptance and support among communities.

Mothers had different opinions towards the care they received in PMH. Those who were initially hospitalised in a private hospital perceived the difference in the care they received especially in the provision of educational information prior to any procedure and mother's resting time. In contrast to government hospital, they perceived the absence of informational education prior some medical procedures and perceived lack of enough rest.

Moreover, some mothers felt that some of the things were being hidden from them resulting in dissatisfaction. In line with the current study findings Namusoke et al. (2021) revealed that there were instances where mothers would find that the medications they were requested to buy not administered to their babies, and not informed about it. Similarly, Salam et al. (2024) revealed lack of responsive and respectful care, poor communication and non-consented care among mothers of preterm babies who sought care at health facilities and other mothers reported difficulty to reach doctors and nurses. Contrary to the current study findings, Cecagno et al.(2020); Steyn,Myburg and Poggenpoel (2017) showed that mothers of preterm babies were hopeful after visiting their babies in NICU, they had a positive feeling that their babies would receive good care. This concurs with the study findings of Lomotey et al. (2020); Shrestha et al. (2020) which indicated that mothers felt cared for and acknowledged the team's effort for caring for their babies. The care provided to their babies was identified in the information about their babies's condition and health. Similarly, Hanson et al. (2020): Pinar and Erbaba (2020): Acharya et al (2020) indicated that mothers of premature babies were satisfied with the care provided by health care providers and availability of competent staff. The similarity in findings could be attributed to the study being conducted in developing countries with similar struggles. The difference in findings could be attributed to difference in staffing levels across the NICU settings.

The current study findings revealed that mothers perceived difference in health care staff behaviour and attitude. Mothers of preterm babies perceived some nurses to be friendly and more helpful while some nurses were perceived to be moody and dismissive. This is consistent with the findings of Cecagno et al. (2020); Lomotey et al. (2020); Amadu et al. (2023); Shrestha et al.(2020) which unveiled that some mothers had different perceptions towards nurses, they described the nurse mother relationship as cordial whilst others reported it as unfriendly. The current study findings are variant to Hanson et al.(2020) who conducted a study in United Kingdom and revealed a good interpersonal relationship between nurses and the mothers in NICU throughout the NICU stay. The difference in study findings could be attributed to studies being conducted in different NICU settings, the developed and developing countries. Developing countries are overburdened with limited facilities (Gulshan et al.2023).The difference in study findings could be attributed

to lack of good communication skills among health care providers in developing countries. Poor communication skills inadvertently resulted in distress and hurt to mothers (Tatterton and Fisher, 2023).

Additionally, the current study findings revealed that mothers of preterm babies perceived limited resources such as inadequate human resources, limited number of equipments such as saturation monitors to negatively affect the mothers and the care provided to their babies. They perceived the need for increased resources in NICU. This is consistent with the findings of Salam et al. (2024) in Bangladesh, which indicated that health systems challenges included lack of equipment, supplies and trained staff in facilities to provide special care to preterm babies. The results could be similar due to both studies being conducted in developing countries. Resource challenges is a problem across NICU settings in developing countries. Gulshan et al. (2023); Amadu et al. (2023); Deepak and Ghai (2022) asserted that there are several challenges for mothers of preterm babies in developing countries NICUs which are overburdened and with limited facilities. Therefore, this highlights the critical need for increased resources in NICU settings in developing countries. Enhanced resources could improve the quality of care provided to premature babies ultimately reducing morbidities and mortalities associated with prematurity (Nakstad et al.2021).

The implication of these findings, is that healthcare providers need to be aware of mother`s perceptions as they provide the various services in NICU. Nurses, in all settings of the health institutions plays a pivotal role as a liaison between the other healthcare team members and the patients. Besides, nurses interacts with the patients more often than any other members of the health team hence establishing a cordial interpersonal therapeutic relationship is imperative. Constant provision of assurance and support to mothers of premature babies about the wellbeing of their babies, alongside demonstrating sensitivity and compassion when caring for premature babies, is paramount. This actions could aid in building trust, reduce maternal anxiety and foster a supportive environment which would benefit both the baby and the mother. Empowering mothers with timely and adequate information on their babies` condition is important for the mental wellbeing of the mothers. It is also significant to continue advocating for appropriate specialist nurse

patient ratio, adequate medical supplies and equipment and a spacious NICU environment. Implementing this could aid in alleviating morbidities and mortalities associated with prematurity in NICU, PMH.

### **5.5 Conclusion**

Six major themes emerged in the study namely. The themes described a divergence of experiences expressed by the twelve participants who took part in the descriptive phenomenological qualitative study. From the study findings, it can be concluded that mothers described NICU to be restrictive which hindered family centred care. Mothers yearned for bonding and interaction with their babies due to separation from their babies and restricted time. They were scared and unfamiliar with equipments and procedures in NICU, PMH. Mothers experienced different emotions while navigating their journey in NICU such as fear and anxiety being the prominent emotions exhibited by mothers of preterm babies which was exacerbated by the increased mortalities in NICU, witnessing the loss of other babies, anger, sadness emotional breakdown, isolation, mixed emotions and demonstrated a remarkable resilience, remained hopeful amidst challenges, happy etc. able to cope, and overcome the NICU challenges and navigate their journey in NICU.

Mothers of preterm babies experienced unusual and unpleasant maternal experience where mothers had emotional distress due to baby swapping and they fed a different baby, which was not theirs and misinformation about baby`s demise. Mothers of preterm in NICU expressed the lack of emotional and psychological support, lack of information and communication and expressed the need for psychological and emotional support in NICU, the need for information and communication in NICU. They expressed the need for increase in resting time and perceived the need for increased resources in NICU. Perceived vulnerability of their premature babies, perceived the difference in hospital care and support, difference in nurse`s behaviour and attitudes in NICU, PMH which also triggered their emotional distress. The study findings aligns with several studies conducted worldwide across various NICU settings. Therefore, the study findings underscores the urgent need for collaborative emotional, social, psychological and spiritual support to ensure holistic approaches to effectively overcome challenges in NICU as mothers of premature babies navigate their journey across NICU settings. Health care providers need to acknowledge the challenges mothers of preterm babies undergo and provide support

accordingly. The study findings emphasises the need for increased space in NICU,PMH to prevent overcrowding which will reduce infections and aid in alleviating mortalities in NICU,PMH.

### **5.6 Contribution to Body of Knowledge**

The study provides a unique insight into the experiences of mothers of premature babies, offering a rich understanding of the emotional, physical and psychological challenges they face. The rich data from the experiences of mothers of premature babies can be used as an evidence in decision and policy making based on the experiences of mothers of premature babies admitted in NICU. By employing a rigorous qualitative methods, the study ensures credibility and depth of its findings which are both contextually relevant in shaping family centered care practices and overcoming barriers to emotional,social,psychological and spritual support.

The inclusion of diverse mothers of premature babies` perspectives in the study enhances the applicability of findings to a broader population. This study was intended to exclude babies with gestational age less than 28 weeks. It is noteworthy, that during the time of data collection no babies less than 28 weeks were present, so basically all the mothers present during data collection were eligible to participate.The study revealed previously undocumented experiences of mothers with premature babies in the literature reviewed such as baby swapping, misinformation about the baby`s death and unauthorised access to medical files by mothers in order to understand their baby`s condition. Mothers also had a positive attitude towards their babies as they expressed that their babies have developed a bit of independency as most of the time they are not with them in NICU and were perceived to be stronger than term babies.

The above stated study findings have seldom been documented in the previous studies reviewed. These findings highlighted critical gaps in NICU communication, trust and security practices.By shedding light on this issues, this study contributes to the broader discourse on improving transparency, ethical practices and the quality of care in neonatal settings.The study also contributes to the body of knowledge, by adding valuable insights, addressing a gap in literature and offering a perspective on the experiences and perceptions of mothers with premature babies. Additionally, the study underscores the

importance of clear communication, meticulous confirmation of the baby's signs of life before informing mothers, provision of information particularly, regular updates and education to empower and support mothers of premature babies in NICU.

These findings not only provide unique contributions to existing literature but also suggest practical interventions for health care policies and NICU practices to better support mothers of premature babies and their families while caring for their babies in NICU. The study underscores the collaboration of an organised support services by a multidisciplinary team of health professionals to meet the emotional, social, psychological and spiritual needs of mothers with preterm babies in the NICU. This would ensure comprehensive maternal support in NICU and the tailored interventions will aid in reducing the increased neonatal morbidities and mortalities in NICU.

## **5.7 Implications to Nursing**

### **5.7.1 Nursing Practice**

The findings of this study embrace a momentous implications for nursing practice, particularly in Neonatal nursing and NICU care. Nurses in NICU need to be cognizant of the emotional, psychological, physical and social challenges mothers of premature babies undergo while caring for their babies in NICU and integrate a holistic approach whilst addressing them. Mothers of premature babies exhibit different emotions as they navigate their journey in NICU. Therefore nurses and other health care providers need to provide emotional support to mothers of premature babies during this crucial time and nurses need to advocate for these mothers to be referred to a psychologist and a social worker. Mothers could be regularly seen by a psychologist and ensure adequate time with them. Needs assessment for mothers of premature babies would aid in alleviating maternal stress and anxiety in NICU and standardizing the care given by nurses. Additionally, nurses could foster emotional resilience by facilitating the formation of maternal support groups for mothers of preterm babies to share their experiences as mothers reported to be isolating themselves.

Nurses in NICU need to be emotionally sensitive when dealing with mothers of premature babies and need to focus on both the mother and the baby and treat them as a whole. Implementing family centered care models, effective communication, provision of

information such as regular updates about the baby, orientation, educational support, provision of adequate resting time could aid in alleviating psychological, emotional and physical challenges mothers of premature babies undergo, aid in coping strategies for mothers of premature babies, which will enhance the overall quality of Neonatal nursing practice.

### **5.7.2. Nursing Administration**

The study findings detail the need for nursing administrators to revise the hospital policies for restricted NICU access to enable mothers of premature to have access to NICU anytime to facilitate maternal bonding and interaction with the baby which will aid in growth and development of the baby. Additionally this would aid in alleviating maternal fear and anxiety as the study shown that mothers were worried due to separation from their babies. The study findings highlight the need for a flexible family-centered care. Nursing administrators need to advocate for policies promoting family centered care to foster a supportive and welcoming environment that acknowledges the emotional and psychological impact related to premature baby care and facilitate involvement of fathers in care of the baby. Nursing administrators need to revise the standard operating procedures for mothers to be referred regularly to a psychologist for psychological support. Moreover, promoting multidisciplinary collaboration between nurses, psychologists, pastors and social workers in the NICU care team will enhance the emotional, psychological, social and spritual support available to mothers and families. The study findings has shown the lack of psychological and emotional support in NICU and mothers expressed the need for psychological support. Developing training programs for nurses to acknowledge mother`s needs and provide emotional support to mothers of premature babies. Emphasizing the emotional sensitivity, social, psychological and spritual competences is essential to guarantee a healthcare delivery that reorient with the diverse needs of mothers and their families. Revisions of policies for mothers of premature babies to have enough rest to aid in alleviating the mental and physical exhaustion.

### **5.7.3. Nursing Education**

The study findings revealed lack of information to mothers of premature babies and nurses` uncertainty. This highlights the need for nurses to provide educational support to mothers of premature babies to enable them to better understand their babies ` medical

conditions, medical equipments and rationale behind certain procedures performed on their babies. Nurses could use educational materials such as videos and demonstration sessions tailored to meet the needs of mothers of premature babies. This could aid in empowering mothers to be confident while caring for their babies and help in alleviating stress, fear and anxiety. The study conveys a need for a neonatal nursing curriculum in nursing training institutions in Botswana with enriched syllabus that prepares future neonatal nurses to attend to the complex situations experienced by mothers of premature babies. Integrating specialised content on neonatal care and prematurity into the nursing curriculum will be essential to prepare nursing students to explain complex medical conditions and interventions to mothers in an understandable manner and providing emotional support to mothers. Incorporating pedagogics on family centered care, attendant advocacy, and holistic care will empower nursing students with the knowledge and skills necessary for all-embracing family support. Nurses could educate the community and raise awareness about prematurity which will dispel the myths and misconceptions surrounding premature births and reducing stigma faced by mothers of premature babies.

#### **5.7.4. Nursing Research**

The current study accentuates the importance of further consideration on the experiences of the mothers with premature babies in NICU and interventions to prevent mental stress. Future research can explore deeper into the effective interventions for providing consistent emotional and psychological support to mothers of premature babies in NICU, exploring how to address the discrepancies in communication and attitude of health care providers in NICU, effectiveness of family centred care models in overcoming barriers such as restrictive NICU access, exploration of how fathers perceive their role in NICU, identify barriers and facilitators to their active involvement. Future research can also explore deeper on the nurse-mother therapeutic relationship, perception of their coping mechanisms, and financial impact of prematurity on the family across diverse contexts. These could contribute to the development of evidence based interventions that improve the overall NICU experience for mothers of premature babies and their families. Additionally, longitudinal studies that follow mothers' experiences across the entire premature baby care journey, inclusive of babies' growth patterns, can render valuable

insights into prematurity and highlight areas for ongoing improvement in neonatal nursing care.

## **5.8. Recommendations**

### **5.8.1 To Ministry of Health**

The MOH management should employ more doctors, nurses and psychologists to ensure adequate staffing for provision of orientation during admission and updates about the baby's condition, educational support, emotional and psychological support as well as ensure adequate interaction of mothers of premature babies with doctors.

The ministry should invest in education by facilitating specialised neonatal nursing programs with a specific focus on prematurity care as prematurity is one of the leading cause of mortality in NICU, PMH. This training should encompass counselling skills in NICU, educational support, empathetic communication, emotional sensitivity, promotion of family centered care in NICU and the integration of holistic care to address the comprehensive needs of mothers of premature babies and their practices. This would ensure healthcare providers are equipped with the skills to address the emotional, psychological, social, and physical aspects of prematurity the ministry can enhance the overall quality of care and contribute to better neonatal outcomes.

Ministry of Health management should prioritise allocating funds for mobilisation of resources in NICU. This will aid health care providers and management team of PMH to ensure adequate equipments and supplies in NICU. Additionally the funds assist in supporting prematurity awareness campaigns aimed at educating the community and raise awareness about prematurity which will dispel the myths and misconceptions surrounding premature births and reducing stigma faced by mothers of premature babies. These efforts will significantly enhance the quality of care provided in NICU and contribute to better outcomes for preterm babies and their families. MOH should expand the nearby primary and district government hospitals to provide neonatal care and ventilation services, with adequate specialised personnel such as neonatologists would be crucial to reduce the number of referrals to NICU, PMH and aid in mitigating overcrowding in NICU, PMH as well as alleviating the increased neonatal morbidities and mortalities.

### **5.8.2 Princess Marina Hospital**

The NICU, PMH should review the NICU guidelines such that all mothers of premature babies admitted to NICU should be routinely referred to a psychologist and have adequate time with the psychologist. PMH management should integrate a holistic approach to addressing psychological, emotional and social challenges in NICU. Social worker, psychologist and pastors should form part of the NICU team and should be given their offices in NICU. Mothers of premature babies should be referred to a social worker for social support. Initiatives such as invitation of pastors or spiritual leaders from various congregations for spiritual support should be adopted.

The hospital management should prioritise the development of a policy to establish peer support groups facilitated by psychologists in NICU, to provide a platform for mothers to share their experiences with other mothers of preterm babies. This would ensure that mothers receive emotional and psychological support, foster a sense of community and shared understanding among mothers and build resilience. Additionally, PMH management should partner with other NGOs which may assist in providing and funding psychological support services to mothers of premature babies in NICU as well as post discharge.

The PMH management should implement in service training programs for health care providers in NICU, focused on specialised content on neonatal care, prematurity and counselling skills. This would help nurses in NICU to be able to explain some medical conditions and interventions to mothers in an understandable manner, provide effective communication, emotional support, emphasizing emotional sensitivity while assisting mothers of premature babies and acknowledge the diverse needs of mothers and their families.

PMH management should consider implementing educational support systems such as installing televisions or digital screen walls in mothers resting rooms designated to provide informative videos or presentations on prematurity care, conditions, KMC demonstration and common NICU procedures from trusted online sources. This would aid mothers to access accurate and reliable information to promote knowledge empowerment, alleviate

anxiety among mothers of preterm babies and foster confidence while caring for their babies in NICU.

PMH management should invest in prematurity campaigns for health care providers in NICU to educate the community and raise awareness about prematurity to dispel the myths and misconceptions surrounding premature births and reducing stigma faced by mothers of premature babies.

The study findings detail the need for hospital management to revise the hospital policies for restricted NICU access to enable mothers of premature to have access to NICU anytime to facilitate maternal bonding and interaction with the baby which will aid in growth and development of the baby. PMH management should review the NICU policies for mothers of premature babies to have adequate rest and allow family members in NICU especially the grandparents and baby`s father whilst conforming to infection prevention protocols in NICU, to assist with the care of the baby, providing KMC. This will promote family centered care and aid in alleviating maternal physical and mental exhaustion by ensuring mothers have enough time to rest.

The PMH management should increase the NICU space which will aid in reducing overcrowding which was evidenced in the study as one of the source of fear for cross infections among mothers. NICU should be refurbished to ensure privacy hence facilitating the role of fathers in KMC which has been evidenced to reduce neonatal mortality in previous studies.

The PMH management should implement strategies to improve neonatal survival rates such as advocating for funding to expand NICU space, procure and ensure availability of necessary resources in NICU.

Healthcare providers should strictly adhere to NICU protocols for all decisions made in NICU. Additionally every baby should be assigned an identification tags and regular identity checks should be implemented to ensure baby is consistently matched with the correct mother and mothers should be encouraged to participate in regular identity checkups and report any concerns immediately. This practice will not only enhance baby

safety but also foster trust between health care providers and mothers of premature babies including their families.

The PMH management should review policies to increase the meal portions of mothers of premature babies and ensuring the portions meet their nutritional needs for optimal milk production. Apart from breastfeeding café which has been shown in the study from Botswana Harvard Health Partnership to provide breastfeeding support, PMH management should engage with other stakeholders for improved nutritional support.

### **5.8.3 Nursing Institutions in Botswana**

Nursing and midwifery council, MOH and nursing institutions in Botswana should develop a neonatal nursing program in the nursing training institutions in Botswana, with enriched curriculum that prepares future neonatal nurses to attend to the complex situations experienced by mothers of premature babies. All nursing schools in Botswana should incorporate specialised content on neonatal care, prematurity and family centered care in NICU in their nursing curriculum for nurses to be in a position to explain complex medical conditions and interventions to mothers in an understandable manner and providing emotional support to mothers.

### **5.8.4 Future Research**

Further studies on the experiences of the mothers with premature babies in NICU and interventions to prevent mental stress should be conducted. Future research can explore deeper into the effective interventions for providing consistent emotional and psychological support to mothers of premature babies in NICU. Future research should explore deeper on the nurse-mother therapeutic relationship, perception of their coping mechanisms, and financial impact of prematurity on the family across diverse contexts. This will aid in contributing to the development of evidence based interventions that improve the overall experiences for mothers of premature babies while caring for their babies in NICU and their families. Quatitative or mixed methods research could complement these findings by measuring the prevalence of psychological distress of mothers with premature babies and evaluating the effectiveness of support interventions. Longitudinal studies that follow mothers' experiences across the entire premature baby care journey and beyond NICU discharge inclusive of babies' growth

patterns should also be conducted. This could render valuable insights into prematurity and highlight areas for ongoing improvement in neonatal nursing care.

#### **5.8.5 Limitation of the study**

Even though the study provides valuable insights, it is not without limitations. The study was conducted in a single national referral hospital NICU, PMH which may limit the generalizability of findings to other settings such as smaller hospitals or private facilities due to difference in overcrowding of the setting, doctor and nurse`s patient ratio and infrastructure.

The interviews were done by the researcher who is part of the staff in NICU, PMH. This may somehow lead to potential bias due to familiarity with the setting influencing data collection and interpretation. However, this limitation was minimised by employing bracketing and reflexive auditing throughout the research process, to minimise potential bias. Additionally, member checking and peer debriefing was done to minimise potential bias and enhance credibility of the study findings. Confidentiality and privacy was also rigorously maintained throughout the research process for ethical integrity. These strategies contributed to the overall rigor and trustworthiness of the study findings. Participants may have been hesitant to share their negative experiences due to the researcher`s professional role affecting transparency of responses and fear of victimisation. This limitation was minimised by probing further during the interview to get deeper on the phenomenon being studied and establishment of rapport before commencement of the interview.

The restricted three hourly feeding schedule in NICU may have somehow affected mothers` subjective experience due to constant worry and anxiety of adhering to NICU feeding hour coupled with the need to rest and express milk before next feeding session. This may have somehow influenced the ability to deeply reflect on and share their experiences leading to potential bias. The limitation was reduced by further probing. Some interviews were conducted in Setswana depending on the mothers preferred language and then translated to English. This may have somehow affected the interpretation of mothers` experiences. This limitation was reduced by using a translator to translate the Setswana interview guide to English language.

While the mothers experiences may change as they continue staying in NICU, the study captured the experiences of mothers of premature babies in a specific period in NICU and may not reflect long term experiences. As a result, future studies focusing on long term experiences of mothers with premature babies should be conducted. The study findings reflect the experiences and perceptions of mothers who were present during the study period and the study did not capture the perspectives of fathers and other family members which would have enhanced the study findings warranting further study on perspectives of father`s role in the care of their baby in NICU or a further study on experiences of family members on the restricted NICU access.

#### **5.8.6 Dissemination and utilisation of study findings**

The study findings will be presented and submitted to University of Zambia School of Nursing Sciences graduate fora as hard copies. Hard copies of study findings will also be submitted to University of Zambia library, PMH, MOH in Botswana and all relevant stakeholders to aid in neonatal policy development and implementation decisions. The researcher will publish research findings in peer-reviewed journals, potentially focused on neonatology i.e. International journal of neonatology and Maternal and child health journals for information to spread worldwide to healthcare professionals, policymakers and interested stakeholders for use in advancement in neonatal care. The study findings will be presented at academic and health conferences on neonatal and maternal health at national and regional level for networking with other researchers, discussing the study findings and receiving feedback which will aid in identifying areas for improvement.

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## **APPENDICES**

### **APPENDIX A: PARTICIPANT INFORMATION SHEET**

**Title of the study: Experiences of Mothers with Premature Babies admitted in Neonatal Intensive Care Unit (NICU) at Princess Marina Hospital (PMH) Gaborone, Botswana.**

**Investigator:**

Pepechua Mpofo, researcher. School of Nursing Sciences.

Phone: +260 765453167/+267 74089966

Email: [pepe74089@gmail.com](mailto:pepe74089@gmail.com)

**Background and rationale for the study:**

Thank you for showing interest in participating in this study meant to explore the experiences of mothers with preterm babies while caring for their babies in Neonatal intensive care unit at Princess Marina Hospital in Gaborone, Botswana. Mothers start their journey of parenthood in a stressful environment where they are separated from the baby. Your participation in this study will provide valuable insights into the challenges, emotions, and perspectives during this difficult period and aid in policy formulation that will aid in assisting mothers of premature babies to receive psychological support services regularly and promote family centred care while caring for their babies in NICU, PMH.

**Purpose:**

The aim of this study, is to explore the experiences you undergo while caring for your baby in NICU. The researcher intends to gain an understanding of the difficulties, feelings, emotions and opinions while caring for your baby in NICU. The information you provide will help in assisting mothers of premature babies with similar experiences in future.

**Procedures:**

You will be invited to take part in an in-depth interview once you agree to participate in the study. The interview will be conducted in a private and confidential location, and it is expected to last about 20-30minutes which will be audio recorded at your consent. During the interview, you will have the opportunity to honestly share your experiences, opinions, thoughts, and emotions.

**Who will participate in the study?**

Mothers of premature babies admitted to NICU, Princess Marina Hospital whose babies have stayed 5 days or more in NICU and have never had a premature baby before. The interview will last about approximately 30-60 minutes of your time.

**Risks/Discomforts:**

This study carries no major risks or discomforts except the time and energy needed to answer the questions.

**Benefits:**

The study has no direct benefits to you as a participant. However, the information you provide will be important in contributing to a better understanding of the experiences of mothers while caring for their babies in NICU and this would lead to improved psychological support and care for mothers of premature babies with similar circumstances in future.

**Alternatives:**

The decision to participate in this study is completely voluntary. You have the right to decline or withdraw from participation at any point without any penalties and this will not affect your baby`s care in any way.

**Cost:**

You will not incur any costs during the conduct of this study.

**Compensation for participation in the study:**

Should you become injured during the course of the study, you will be assisted, it will be the responsibility of the researchers to ensure that you receive medical assistance and optimal care. In the event that you may suffer permanent damage, necessary medical attention and cover of all medical and rehabilitation expenses related to the injury will be provided.

**Reimbursement:**

The study will occur during hospitalisation of the baby hence no costs will be incurred for travelling.

**Questions:**

Contact details of the investigators are provided at the end of the consent form for contacts and further clarifications.

**Questions about participants' rights:**

Should you have any questions about your rights as a research participant, you can have your queries addressed to contacts provided at the end of the consent.

**Statement of voluntariness:**

Participation in this study is completely voluntary. You have the right to join at your own will and decline participation or withdraw from the study at any time without any penalties. Your decision will not affect your baby's care in any way.

**Confidentiality:**

The results of this study will be kept strictly confidential, and used only for research purposes. My identity will be concealed as far as the law allows. My name will not appear anywhere on the coded forms with the information. Paper and computer records will be kept under lock and key and with password protection respectively. The interviewer discussed this information with me and offered to answer my questions. For any further questions, I may contact the Chairperson, UNZABREC on the following details:

The Chairperson, University of Zambia, Biomedical Research Ethics Committee

P.O Box 50110, Lusaka.

Phone number: +260-1-256067

Email: [s.munsaka@unza.zm](mailto:s.munsaka@unza.zm)

**APPENDIX B: INFORMED CONSENT FORM**

Pepechua Mpofu has described to me what is going to be done, the risks, the benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not alter my usual medical care. In the use of this information, my identity will be concealed. I am aware that I may withdraw at any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name:.....Signature of participant  
.....Age.....

Date (DD/MM/YY).....

Name of Witness..... Signature of  
Witness.....

Date (DD/MM/YY).....

Name.....Signature of parent or guardian for minors  
.....

Date (DD/MM/YY).....

Name.....Signature of Interviewer  
.....Date (DD/MM/YY).....

If you have any further questions please contact the University of Zambia Biomedical Research Ethics Committee

Telephone: +260977925304 Ridgeway Campus

Telegrams: UNZA, LUSAKA

P.O. Box 50110 Lusaka,Zambia

Telex: UNZALU ZA 44370 Fax: + 260-1-250753

E-mail: [unzarec@unza.zm](mailto:unzarec@unza.zm)

**Assurance No. FWA00000338      IRB00001131 of IOR G0000774**

### **PERSONS TO CONTACT FOR QUERIES**

1. Pepechua Mpofu, researcher. School of Nursing. Phone: +260765453167/ +267 74089966. Email: [pepe74089@gmail.com](mailto:pepe74089@gmail.com)
2. Dr. Maureen Masumo, supervisor. School of Nursing. Phone: +260977862284. Email: [maureen.masumo@unza.zm](mailto:maureen.masumo@unza.zm)
3. Dr Sebean Mayimbo co-supervisor. Phone: +260977767008 /+260969165301/+260954570652 Email: [sebeanmayimbo@gmail.com](mailto:sebeanmayimbo@gmail.com)
4. The Chairperson, University of Zambia, Biomedical Research Ethics Committee, P.O Box 50110, Lusaka. Phone number: +260-1-256067; Email: [s.munsaka@unza.zm](mailto:s.munsaka@unza.zm)

## **APPENDIX C: IN-DEPTH INTERVIEW GUIDE**

### **Introduction**

Thank you for participating in this study. The purpose of this study is to explore your experiences as a mother while caring for your premature baby in the NICU. The information you will provide will contribute to improving the care and support provided to mothers of premature babies. Your participation in this study is completely voluntary and free, you have the right to withdraw from the study at any point without any penalties. Please be free and don't be anxious to share your perceptions, thoughts and feelings while caring for your baby in the NICU. The information you provide will be kept confidential.

Building Rapport by asking general questions about the mother e.g. how her day has been etc. and creating a comfortable and trusting environment.

Interview questions will start by collecting demographic information about the mother;

<b>DEMOGRAPHIC INFORMATION</b>	
1. Age of mother	
2. Marital status	
3. Number of children (Gravidity and Parity)	
4. Level of education	
5. Occupation	
6. Nationality	
7. Religion	
<b>INFANT BIOGRAPHIC INFORMATION</b>	
1. Mode of delivery	
2. Gender	
3. Birthweight	

4. Gestational age at birth	
5. Current weight	
6. Mode of feeding	
7. Days in NICU	

**Experiences of mothers with premature babies while caring for their babies in NICU**

1. Tell me about your experience while taking care of your baby in the NICU.
2. Can you describe your feelings when you first learnt that your baby was admitted to NICU?
3. From the day your baby was in NICU, what has been your fear?
4. From the day your baby was admitted, how can you describe your interactions with the doctors, nurses, and other staff?
5. Tell me about the psychological support or counselling you received while caring for your baby in the NICU?
6. Describe your relationship with your family since your baby was admitted to NICU.

**Perceptions of mothers with preterm babies whilst caring for their babies in NICU**

1. In your view what can you say about your preterm baby?
2. Explain whether your expectations in terms of care and support, are being met?
3. What do you think should be done to improve NICU services for preterm babies?
4. As we come to the end of our interview, do you have anything to say?

We have come to the end of our interview.

**THANK YOU SO MUCH FOR YOUR PARTICIPATION**

## APPENDIX D: RESEARCH BUDGET

Item Description	Quantity(each)	Unit Cost(BWP)	Total Cost(BWP)
National Health Research Authority(ZNHRA)	1	2040	2040
UNZABREC(Ethics approval fee)	1	1500	1500
Transport services(Local and International trips)	6	1000	6000
Transcription services	1	3000	3000
Digital voice recorder	1	3000	3000
Data analysis software(NVIVO)	1	3000	3000
Translation of interview	1	1000	1000
Research assistants	3	500	1500
Training of research assistants	3	500	1500
Airtime	1	500	500
Monthly internet subscription	3	1000	3000
<b>Stationery and Supplies</b>			
Ream of papers	1	150	150
Staplers	1	50	50
Staples	2	50	100
Pens	10	5	50
Pencils	5	3	15
Highlighters	2 packs	60	120
Diary	3	80	240
Printing of interview guide	10	50	500
Printing of consent forms	10	50	500
Printing and binding of Dissertation	1	1000	1000
File	3	50	150

Total (BWP)			<b>28 915.00</b>
Contingency (10% of total)			<b>2891.50</b>
Grand Total (BWP)			<b>31807.00</b>

**APPENDIX E: JUSTIFICATION OF BUDGET**

The proposed budget of 31 807.00 BWP is thoughtfully allocated to ensure the successful accomplishment of the research project. Allocation of 6000 BWP Transport services is essential for meeting the research objectives well in time, arriving at the research sites also well in time and ensuring that all the logistics needed for the research project are met for the successful execution of the research project. Stationery and supplies will be needed for effective documentation of research findings i.e. audio- taped interviews and reflections during the process of the research project. Transcription services, with a budget of 3,000 BWP are vital for accurate capturing and analysis of participants` voices during the interview, enabling undistorted, clear and deep understanding of mothers` experiences. 3,000 BWP of a digital voice recorder allows clear and distortion-free interview recordings which is imperative for rich data collection. The allocation of 3000 for translation services is crucial for maintaining the integrity of the translated data. For a strong and healthy data analysis, the researcher has allocated 3,000 BWP for data analysis software for meticulously analysing and interpreting the collected data. National Health Research Authority and UNZABREC are ethical considerations crucial for ethical approval to conduct research. The allocations highlight the researcher`s dedication to methodological rigor, precise data analysis and ethical compliance.

## APPENDIX F:GHANT CHART/TIMELINE

Activity	February 2024	March 2024	April 2024	May 2024	June 2024	July 2024	August 2024	September 2024	October 2024	November 2024	December 2024	January 2025	February 2025	March 2025
Proposal writing														
Submission of proposal														
Ethical clearance														
Data collection and entry														
Data analysis and Writing of the final report														
Submission of final report														
Defending dissertation														

**APPENDIX G: PERMISSION LETTERS**

The University of Zambia

School of Nursing Sciences

P O BOX 50110

Lusaka, Zambia

20/05/2024

The Chairperson

Research and Development Division

Ministry of Health

Private Bag 0038

Gaborone, Botswana

Dear Sir/ Madam

**RE: REQUEST TO CONDUCT A RESEARCH STUDY AT PRINCESS MARINA HOSPITAL**

Reference is made to the above-mentioned subject matter

I am a second-year student pursuing Master of Science in Neonatal Nursing at the University of Zambia, School of Nursing Sciences. In partial fulfilment of this program, I wish to conduct Research on **“Experiences of mothers with premature babies admitted in Neonatal Intensive Care Unit at Princess Marina Hospital Gaborone, Botswana.”**

I therefore request authority and counsel from your office to conduct a research study at the Neonatal Intensive Care Unit.

Your support in this regard is highly appreciated

Yours faithfully

.....

Pepechua Mpofu Cell: +267 74089966/+260 765453167 E-mail:  
[pepe74089@gmail.com](mailto:pepe74089@gmail.com)

The University of Zambia

School of Nursing Sciences

P O BOX 50110

Lusaka, Zambia

19/05/2024

Head of Research Board

Princess Marina Referral Hospital

P O BOX 403511

Gaborone, Botswana

Dear Sir/ Madam

**RE: REQUEST TO CONDUCT A RESEARCH STUDY IN PRINCESS MARINA HOSPITAL**

Reference is made to the above-mentioned subject matter

I am a second-year student pursuing Master of Science in Neonatal Nursing at the University of Zambia, School of Nursing Sciences. In partial fulfilment of this program, I wish to conduct Research on **“Experiences of mothers with premature babies admitted in Neonatal Intensive Care Unit at Princess Marina Hospital Gaborone, Botswana”**

I therefore request your office for authority and counsel to conduct the research study at the Neonatal Intensive Care Unit.

Your support in this regard is highly appreciated

Yours faithfully

.....

Pepechua Mpofu Cell: +267 74089966/+260 765453167 E-mail:  
[pepe74089@gmail.com](mailto:pepe74089@gmail.com)

## APPENDIX H:ETHICS APPROVAL

TELEPHONE: 3621400  
FAX: 3673776  
PLOT NO. 1636  
HOSPITAL WAY



PRINCESS MARINA HOSPITAL  
P. O. BOX 256  
GABORONE  
BOTSWANA

RE: PMH 2/11AII (492)

28<sup>th</sup> August 2024

PEPECHUA MPOFU  
P O BOX 403511  
Gaborone  
Botswana

Dear PEPECHUA MPOFU

**RESEARCH APPROVAL: EXPERIENCES OF MOTHERS WITH PREMATURE BABIES ADMITTED IN NEONATAL INTENSIVE CARE UNIT AT PRINCESS MARINA HOSPITAL GABORONE, BOTSWANA**

This letter is to inform you that Princess Marina Hospital Ethics and Research Committee has reviewed your and **approved** your above-mentioned protocol. The approval period is 28<sup>th</sup> August 2024–28<sup>th</sup> August 2025.

This approval is subject to compliance with the following requirements:

1. All changes of amendments, deviations, violations of your protocol are to be submitted for review again and approval by Princess Marina Hospital Ethics and Research Committee before implementation.
2. Only approved documents like informed consents, questionnaires and materials submitted with the protocol will be used.
3. Researcher must not change any aspect of the research without permission from the Princess Marina Hospital Institutional Research Board.
4. Any unforeseen circumstances including termination of the study must be reported to Princess Marina Hospital Research Board immediately.

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5. The Princess Marina Hospital Research Board must have access to the on-going study anytime for auditing purposes.
  6. After completion of the study, the researcher must submit a hard copy and soft copy of protocol to Princess Marina Hospital Ethics and Research Board.

Wish you prodigious triumph in your study.

Yours faithfully

Akaryang Tshiamo  
**Secretary PMH REC**  
**For Hospital Superintendent**



Vision: A Model of Excellence in Quality Health Services.  
Values: Respect, Equity, Timeliness, Customer Focus, Teamwork.





UNIVERSITY OF ZAMBIA  
BIOMEDICAL RESEARCH ETHICS COMMITTEE

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Federal Assurance No. FWA00000338 IRB00001131 of IORG0000774 NHRAR-REC No 2021-05-0002

Ridgeway Campus  
P.O. Box 50110  
Lusaka, Zambia  
E-mail: [unzabrec@unza.zm](mailto:unzabrec@unza.zm)

21<sup>st</sup> July, 2024

Your REF. No. 5403-2024

Ms. Pepechua Mpofu,  
University of Zambia,  
School of Nursing Sciences,  
P.O. Box 50110,  
Lusaka.

Dear Sir/Madam,

RE: EXPERIENCES OF MOTHERS WITH PREMATURE BABIES ADMITTED IN  
NEONATAL INTENSIVE CARE UNIT AT PRINCESS MARINA HOSPITAL GABORONE,  
BOTSWANA (REF. NO. 5403-2024)

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 17<sup>th</sup> July, 2024. The proposal is **approved**. The approval is based on the following documents that were submitted for review:

- a) Study proposal
- b) Questionnaires
- c) Participant Consent Form

APPROVAL NUMBER

: REF. No. 5403-2024.

This number should be used on all correspondence, consent forms and documents as appropriate.

- i. APPROVAL DATE : 18<sup>th</sup> July, 2024
- ii. TYPE OF APPROVAL : Standard
- iii. EXPIRATION DATE OF APPROVAL : 17<sup>th</sup> July, 2025
- iv. After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the UNZABREC Offices should be submitted one month before the expiration date for continuing review.
- v. SERIOUS ADVERSE EVENT REPORTING: All SAEs and any other serious challenges/problems having to do with participant welfare, participant safety and study integrity must be reported to UNZABREC within 3 working days using standard forms obtainable from UNZABREC.

- vi. MODIFICATIONS: Prior UNZABREC approval using standard forms obtainable from the UNZABREC Offices is required before implementing any changes in the Protocol (including changes in the consent documents).
- vii. TERMINATION OF STUDY: On termination of a study, a report has to be submitted to the UNZABREC using standard forms obtainable from the UNZABREC Offices.
- viii. NHRA: You are advised to obtain final study clearance and approval to conduct research in Zambia from the National Health Research Authority (NHRA) before commencing the research project.
- ix. QUESTIONS: Please contact the UNZABREC on Telephone No. +260977925304 or by e-mail on [unzabrec@unza.zm](mailto:unzabrec@unza.zm).
- x. OTHER: Please be reminded to send in copies of your research findings/results for our records. You are also required to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study. Use the online portal: [unza.shirna.net](http://unza.shirna.net) for further submissions.

Yours sincerely,

Prof. Sody Mweetwa Munsaka, BSc., MSc., PhD  
CHAIRPERSON  
Tel: +260977925304  
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REPUBLIC OF BOTSWANA

MINISTRY OF HEALTH  
PRIVATE BAG 0038  
GABORONE

REFERENCE NO: HPRD: 6/14/1

14<sup>th</sup> August 2024

**Health Research and Development Division**

Notification of IRB Review: **New application**

Pepchua Mpofo  
P O Box 403511  
Gaborone

Dear Pepchua Mpofo

**PROTOCOL TITLE: EXPERIENCES OF MOTHERS WITH PREMATURE BABIES ADMITTED IN NEONATAL INTENSIVE CARE UNIT AT PRINCESS MARINA HOSPITAL GABORONE, BOTSWANA, VERSION 7.0, Date: 01/08/2024.**

Review Type: Expedited/Health Research and Development Division  
Review Date: 12<sup>th</sup> August 2024  
Approval Date: 14<sup>th</sup> August 2024  
Effective Date: 14<sup>th</sup> August 2024  
Expiration Date: 13<sup>th</sup> August 2025  
Risk Determination: Less than Minimal Risk

Thank you for submitting new application for the above referenced protocol. The permission is granted to conduct the study.

This permit does not however give you authority to collect data from the selected sites without prior approval from the management. Consent from the identified individuals should be obtained where applicable.

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health Research and Development Division in the Ministry of Health for consideration and approval.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research, Ministry of Health within 3 months of completion of the study. Approval is for academic fulfillment only. Copies should also be submitted to all other relevant authorities.

**Continuing Review**

In order to continue work on this study (including data analysis) beyond the expiry date, submit a Continuing Review Form for Approval at least three (3) months prior to the protocol's expiration

date. The Continuing Review Form can be obtained from the Health Research Division Office (HRDD), Office No. 7A.7 or Ministry of Health website: [www.moh.gov.bw](http://www.moh.gov.bw) or can be requested via e-mail from HRDD office, e-mail address: [hhealthresearch@gov.bw](mailto:hhealthresearch@gov.bw) or [hhealthresearch@govbots.onmicrosoft.com](mailto:hhealthresearch@govbots.onmicrosoft.com). As a courtesy, the HRDD will send you a reminder email about eight (8) weeks before the lapse date, but failure to receive it does not affect your responsibility to submit a timely Continuing Report form.

**Amendments**

During the approval period, if you propose any change to the protocol such as its funding source, recruiting materials, or consent documents, you must seek HRDC approval before implementing it. Please summarize the proposed change and the rationale for it in the amendment form available from the Health Research Division Office (HRDD), Office No.7A .7 or Ministry of Health website: [www.moh.gov.bw](http://www.moh.gov.bw) or can be requested via e-mail from HRDD Office, e-mail address: [hhealthresearch@govbots.onmicrosoft.com](mailto:hhealthresearch@govbots.onmicrosoft.com)

In addition submit a copy of an updated version of your original protocol application showing all proposed changes in bold or "track changes".

In addition submit a copy of an updated version of your original protocol application showing all proposed changes in bold or "track changes".

**Reporting**

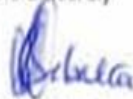
Other events which must be reported promptly in writing to the HRDC include:

- Suspension or termination of the protocol by you or the grantor
- Unexpected problems involving risk to subjects or others
- Adverse events, including unanticipated or anticipated but severe physical harm to subjects.

If you have any questions please do not hesitate to contact Mr Abia Sebaka at, asebaka@gov.bw, Tel +267-3632754 and Mr Kgomoiso Motlhanka at, kgmmotlhanka@gov.bw, Tel +267-3632751.

Thank you for your cooperation and your commitment to the protection of human participants in research.

Yours Sincerely



Mr Abia Sebaka  
**for /PERMANENT SECRETARY**



**Vision:** A Healthy Nation  
**Values:** *Bohlo, Equity, Timeliness, Customer Focus, Teamwork, Accountability.*





**NATIONAL HEALTH RESEARCH AUTHORITY**  
**The Health Research Act**  
**(Act No. 2 of 2013)**



**CERTIFICATE OF REGISTRATION**

THIS IS TO CERTIFY THAT

**Pepechua Mpofo**

has been registered as a Health Researcher

Dated this 11th April 2024

Registration number NHRAR-R-1475/05/04/2024



A handwritten signature in black ink, positioned above the official title.

A/DIRECTOR AND CHIEF  
EXECUTIVE OFFICER  
PROF. VICTOR CHALWE