UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
School of Health Care Sciences
Department of Nursing Science

CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

Submitted in fulfilment of the requirements for the degree
Masters of Nursing Science

By
Ntombizodwa Julia Mokwayi

13394585

At the

University of Pretoria

Department of Nursing Science

MARCH 2024

Supervisor: SC Rossouw
Co-supervisor: Prof CM Maree

DECLARATION

I Ntombizodwa Julia Mokwayi Student Number: 13394585 declare that the topic:

“Challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic.”

It is my original work and has not been previously submitted

I further declare that all efforts to acknowledge sources used in this study were

taken by means of

complete references in the text and reference list.

_____ _____

Ntombizodwa Julia Mokwayi **Date**

DEDICATION

I dedicate this dissertation to

my beloved husband, Tinyiko Chauke. Your unwavering support, boundless love, and constant encouragement and guidance have been the pillars of my journey. I owe where I am today to you. May God grant you a long and fulfilling life, filled with divine health. My love for you knows no bounds and to my two handsome sons, mommy loves you and you are my reason to push for the better.

ACKNOWLEDGEMENT

I am immensely grateful to the Lord God Almighty for bestowing His divine favor upon my life. All glory belongs to You.

I extend my sincere gratitude to the following individuals:

- SC Rossouw, my supervisor, your guidance, continuous support, encouragement, and kindness have been invaluable. I appreciate your efforts in pushing me this far. Thank you.

- Prof CM Maree, my co-supervisor, I am grateful for your guidance, support, encouragement, and willingness to assist whenever needed. Thank you.

- Mr. Chauke T (my husband), your belief in me and constant motivation have shown me that there is always light at the end of the tunnel. I deeply appreciate your love and support. Thank you.

- Dr. Lehlohonolo Majake, Clinical Director, for granting me permission to conduct my study in the hospital. Thank you.

- Prof Mel Coetzee, Head of Neonatology, for allowing me access to the neonatal ICU for my study.

- SR BB Mokwena, Unit Manager, thank you for welcoming me into the unit and providing time for me to introduce my study to the nurses.

- Dr A van der Wath, thank you for your valuable assistance during the coding process.

Your contributions have played a significant role in the completion of this study, and I am truly grateful for your support and encouragement.

ABSTRACT

Background

Infants who are admitted to the Neonatal Intensive Care Unit (NICU) are a medically vulnerable population who are at risk for developmental delays, behaviour difficulties and reduced parent-infant bonding and attachment. The bonding and attachment relationship that forms between parents and their infant is a sensitive process and should be initiated and maintained immediately after birth. The COVID-19 pandemic caused several pandemic-related adversities such as hospital restrictions to parental visits, limited parental contact time with their infants and physical distancing between parents and infants. These COVID-19 related risk mitigation strategies lead to a break in the bonding and attachment process resulting in poor weight gain, failure in exclusive breastfeeding and lack of parent-infant emotional and physiological connection.

Aims and objective

The aim and objective of this study is to explore and describe the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a NICU as a result of the COVID-19 pandemic.

Research design

A qualitative, explorative and descriptive design was used. In the study, the researcher used face-to-face interviews and Microsoft Teams™ meetings with parents and face-to-face interviews with neonatal nurses to explore and describe the challenges of facilitating parent-infant bonding and attachment in the NICU during the COVID-19 pandemic.

Methodology

The study was conducted in a public hospital within the Gauteng province in the NICU of the hospital. The population was parents who had infants in the NICU and all the neonatal nurses who were working in the NICU the COVID-19 pandemic. Convenient sampling was used. Data was collected using face-to-face and Microsoft Teams™ semi-structured interviews. Data was analysed using Tesch's eight steps of data analysis.

Findings

Four themes emerged which are parent-infant bonding and attachment in NICU; factors facilitating parent-infant bonding and attachment challenges related to the COVID-19 pandemic; and consequences of challenges to facilitate bonding and attachment.

Conclusion

This study illuminates the significant challenges confronted by nurses and parents in nurturing parent-infant bonding and attachment within the NICU amid the COVID-19 pandemic. The findings highlight the intensified emotional and communicative responsibilities placed on nurses, emphasizing the imperative for supportive protocols and resources. Moreover, the necessity to adapt practices to incorporate virtual communication and parental involvement is underscored. The study also underscores the dual impact on parents, who grapple with heightened stressors alongside diminished engagement opportunities.

Key terms /concepts: Attachment and Bonding, Challenges, COVID-19 Pandemic, Facilitate, Infant, Neonatal Intensive Care Unit, Parents, Nurses.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES	
ANNEXURE	**TOPIC**
ANNEXURE A	INTERVIEW GUIDE
ANNEXURE B1	PARTICIPANT'S INFORMATION & INFORMED CONSENT DOCUMENT FOR THE RESEARCH STUDY (PARENTS)
ANNEXURE B2	PARTICIPANT'S INFORMATION & INFORMED CONSENT DOCUMENT FOR THE RESEARCH STUDY (NURSES)
ANNEXURE C1	PERMISSION LETTER FROM GAUTENG DEPARTMENT OF HEALTH
ANNEXURE C2	PERMISSION LETTER FROM THE HOSPITAL
ANNEXURE C3	IN-HOUSE COMMITTEE APPROVAL LETTER
ANNEXURE C4	FACULTY OF ETHICS COMMITTEE APPROVAL LETTER
ANNEXURE C5	RESEARCH ETHICAL COMMITTEE APPROVAL LETTER
ANNEXURE D	PLAGIARISM DECLARATION
ANNEXURE E	DECLARATION OF STORAGE
ANNEXURE F	DECLARATION OF HELSINKI
ANNEXURE G	CODING CERTIFICATE
ANNEXURE H1	INTERVIEW TRANSCRIPTS (NURSES)
ANNEXURE H2	INTERVIEW TRANSCRIPTS (PARENTS)

LIST OF ABBREVIATIONS / ACRONYMS	
Abbreviation / acronym	**Meaning**
COVID-19	Corona Virus Disease 2019 is a disease caused by a new strain of coronavirus. 'CO' stands for corona, 'VI' for virus, and 'D' for disease.
FCC	Family centred care
NICU	Neonatal intensive care unit
SARS-CoV-2	The virus that causes a respiratory disease is called coronavirus disease 19 (COVID-19). Severe Acute Respiratory Syndrome-Corona Virus-2 (SARS-CoV-2) is a member of a large family of viruses called coronaviruses that can infect people and some animals.
UK	United Kingdom
US	United States
WHO	World Health Organization

1. CHAPTER 1: INTRODUCTION AND OVERVIEW OF THE STUDY

1.1. INTRODUCTION AND BACKGROUND

According to the World Health Organization (WHO), prematurity is the birth of a baby before the 37th week of pregnancy (WHO, 2020). Premature infants are often critically ill and require specialized care in designated Neonatal Intensive Care Units (NICUs) (Bernardo, 2021). One aspect of care includes emotional and physical closeness between parents and the sick neonate to necessitate normal neuro-cognitive and behavioral development (He, 2021). For parents, it is important to see, hold and touch their infants to facilitate early attachment and bonding (Ettenberger, 2021) (Obeidat, 2009) and prevent parental depression and anxiety (He, 2021). Hospitalization of premature infants causes parents to become isolated and anxious which in turn affects parent-infant bonding, parental mental health, and breastfeeding (He, 2021).

The outbreak of the Coronavirus disease 19 (COVID-19) pandemic in 2020 disrupted specialized healthcare services globally, including special care services for sick infants in NICUs (Cena, 2021). Hospitals introduced measures such as the restriction of visiting hours to reduce the spread of the virus (Van Veenendaal, 2021). Before COVID-19, the hospital allowed rooming-in with practices such as kangaroo mother care, allowing parents to feed their babies and teaching interventions such as infant bathing, baby massage and touching and holding their babies. All these practices were known to assist in the development of secure attachment (Ettenberger, 2021).

While working in a NICU in a Public Academic Hospital, the researcher observed that parents had to leave their infants in the NICU due to COVID-19 regulations. The NICU was also too small to accommodate parents and health professionals when trying to apply and practice within COVID-19 distancing regulations. Parents were only allowed to bring milk for their infants and engage for 10 minutes with their infants at a time. The time allocated to parents was too short and limited them to be involved successfully and becoming close with their infants, resulting in disrupted and absent bonding and attachment for parents and infants. Limited visiting time resulted in the absence of both physical and emotional closeness between the preterm infant and parent in the NICU and parents felt less emotionally connected to the infant. As only

mothers were allowed to enter the hospital as they had to provide expressed breast milk, the fathers were not considered visitation. The researcher observed that infant weight gain was slower than usual, and infants developed necrotising enterocolitis which might have been due to mixed feeding that occurred during the lockdown restrictions of COVID-19 protocols. Many of the mothers also did not have the financial means to travel every day to the hospital to provide a steady supply of expressed breast milk.

As the restrictions were lifted, some guidelines and policies remained in place for the NICU at the selected hospital. Parents were allowed to visit for longer periods, except when tested positive for COVID-19, but parental visits were still restricted to hourly contact when they brought expressed milk for their infants. These restrictions were observed to affect parent-infant attachment and bonding.

1.2. BACKGROUND AND LITERATURE OVERVIEW

Worldwide approximately 15 million infants are born prematurely annually (Ramokolo, 2019). A family-centred care approach is practised in many NICUs (Bry, 2019) as it collaborates for parental involvement as partners in meeting the clinical, emotional, affective, and social needs of the infants (Da Fonseca, 2020). In NICUs exclusive breastfeeding is practiced and skin-to-skin or kangaroo care is used to ensure bonding and attachment and enhance normal growth (Mahoney, 2020). It also has been a standard in NICUs that parents should be present and become actively involved in the care of their infants (Van Veenendaal, 2021).

Attachment and bonding are different concepts that explain the relationship and emotional connection between parents and their infants, often used interchangeably and simultaneously (Wittkowski, 2020) (Radulova, 2021) form between parents and infants to ensure security, safety, and protection of the infant, perceived by the infant as being ‘an anchor in life’, while bonding is the tie that forms between the parents and the infant and consists of emotions and feelings (Wittkowski, 2020) (Redshaw, 2022). In good parent-infant attachment and bonding, parents will be sensitive and responsive to their infants’ physical and emotional needs, to whom the infants respond with normal growth, development and neurobehavioral resilience, good eye contact,

longer duration of breastfeeding practices and establishment of their future self-esteem, resilience, regulation of emotions and capacity to form close relationships (Wittkowski, 2020).

The outbreak of COVID-19 became a global pandemic and countries battled to restrain the spread of the virus to vulnerable populations, including infants (Radulova, 2021). The virus rapidly spread across the globe (James, 2021), and the United Kingdom (UK) was the first to restrict parental access and presence in the NICUs to only one parent at the bedside at any time and required families to choose a single parent to be allowed into the NICU for the entire hospital stay (Mahoney, 2020). Since the onset of the COVID-19 pandemic, parental visiting hours changed and become restricted, resulting in the inability of parents to attend doctor's rounds and participate in daily infant care (Van Veenendaal, 2021). Hospitals allowed visitation of one parent who was also required to bring expressed breast milk for the infant (South African Framework and Guidelines for Maternal and Neonatal Care during a crisis, 2021) (Van Veenendaal, 2021).

The influence of restricted or reduced visitation on parent-infant bonding was perceived by mothers in the United Kingdom (UK) and the United States (US) as restrictive, as 41% of the respondents indicated that their ability to bond with their infants was impaired and that the ability to breastfeed was severely affected (Kelleher, 2022).

1.3. PROBLEM STATEMENT

Mother-infant interaction during early infant life plays a big role in the emotional and cognitive development of infants and assists in the normal growth of infants (Flacking, 2021). The closeness of skin-to-skin contact is important for the promotion of breastfeeding, growth, and infant comfort (Flacking, 2021). Allowing parents to be with their baby for prolonged periods increases parental confidence, reduced stress, and decreases anxiety (Mahoney, 2020), allowing parents to become familiar with their infants and their needs, strengthening the parental-infant bond, and leads to competence in the parental role (Flacking, 2021). Children who have bonded and

attached to their parents during infancy are good at managing their feelings and behaviour, are confident and find it easy to relate to others (Moullin, 2014).

Restrictions to parental access to the NICU resulted in decreased involvement in family-centred care activities and increased stress, leading to poor bonding and attachment (Ettenberger, 2021). Precautions to curb the spreading of the virus became psychologically demanding on parents (Cena, 2021) and might have affected the bonding and attachment process between parents and their infant which in turn affected the neurodevelopment of the infant (Mahoney, 2020). The bond that parents develop with their infants is fundamental for their flourishing when growing up (Moullin, 2014). Consequences of separating the parents from their infants may result in problems such as a risk of developing behavioural problems, poor literacy, and early school drop-out. Insecurely attached infants are also at risk of externalising problems, characterised by aggression, defiance and being hyperactive (Moullin, 2014). Disruption of parental closeness interferes with the early establishment of emotional and physiological connection between parents and their infants (Cena, 2021) and infants will miss out on bonding-related behaviours such as affective touch, looking, vocalizing and positive face effect (Cena, 2021). This may result in long-term negative consequences for the infant's development including social, cognitive, emotional, physical, and interpersonal relationships (Cena, 2021). The WHO reinforces the principle that mothers, and new-borns are not be separated and the importance of new-born health services to continue while ensuring strict infection control and preventative measures during the COVID-19 pandemic (World Health Organization, 2020).

As some of the restrictions such as reduced visiting time and limited touching and holding of their babies are still in place in the NICU, the parents became disrupted in emotional connection with their babies and unsure about their role as caregivers.

1.4. RESEARCH QUESTION(S), AIM AND OBJECTIVES

The following research question was formulated for this study:

What are the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a NICU because of the COVID-19 pandemic?

- Aim and objective of the study.

The overall aim and objective of this study was to explore and describe the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a NICU as a result of the COVID-19 pandemic.

1.5. DEFINITION OF KEY TERMS / CONCEPTS

The following concepts were formulated and used consequently throughout the study:

1.5.1 Attachment and bonding: Infant-parent attachment is a powerful predictor of a child's later social and emotional outcome, as a normally developing child will develop an attachment relationship with a caregiver who provides regular physical and/or emotional care, regardless of the quality of that care. If an infant experience her or his parents as a source of warmth and comfort, she or he is more likely to hold a positive self-image and expect positive reactions from others later in life (Benoit, 2004). Bonding is the intense attachment that develops between parents and their baby. It makes parents want to shower their baby with love and affection and to protect and care for their little one (Ben-joseph, 2018). As attachment and bonding are closely related, they will be used in combination to describe a good parent-infant relationship.

The parent-infant relationship promotes social, cognitive, and behavioural development of the infant and good interaction between parents and infant that improve later emotional control of the infant (Trombetta, 2021). Practices that facilitate a good parent-infant relationship include the presence of and physical contact between parents and infants to ensure a consistent response and soothing voice as reaction to the infant's behavior and emotions (Frazier, 2015). Fathers tend to perceive the relationship differently and relate to the development thereof through looking at the infant, taking pictures of the infant and observing the bond between the mother and the infant (Frazier, 2015). In this study attachment and bonding are observed as affective (responding to the infant's needs with feelings of warmth and care), cognitive (through talking and singing to assist in memory development) and behavior (looking into the eyes of the infant) as indicators that parents use towards their infant.

1.5.2 Challenges: Collins (Collins, 2020) refers to challenges as difficult or new situations that can be overcome by effort or determination through questioning and defining the problem. In this study. Challenges were perceived as the constraints and limitations that occur as a result of protocols and practices that were brought on by the COVID-19 pandemic and influence parent-infant bonding and attachment in the NICU.

1.5.3 COVID-19: According to the WHO, COVID-19 is a viral infection that causes severe acute respiratory syndrome (SARS-COV-2) (Liu, 2021). In this study COVID-19 refers to the disease that affected the respiratory system and prevention, isolation and infection protocols and regulations that needed to be in place to prevent transmission. The application of these regulations influenced the practice of family centered care and disrupted ongoing bonding and attachment between parents and their infants in the NICU.

1.5.4 Facilitate: Is concerned with helping individuals or groups to work effectively and efficiently to reach an aim (Bruce, 2015). This study aimed as an outcome to help/assist parents and neonatal nurses to overcome the restrictions or challenges that disrupt parent-infant bonding in the NICU as a result of the COVID-19 pandemic.

1.5.5 Infant: Ndango (Ndango, 2017) refers to an infant as an ‘extremely young child’. In this study it refers to infants not older than one month, admitted in the NICU, who have special needs and require closeness of their parents to ensure bonding and attachment.

1.5.6 Neonatal Intensive Care Unit (NICU): The NICU is an environment that specializes in the care of ill or premature infants and practices are influenced by neonatal nurses, medical practitioners, and parents (Gardner, 2021). In this study it refers to a unit where critical sick infants are admitted for specialized care.

1.5.7 Nurses: According to south African nursing council is an individual officially enrolled in a nursing category as per section 31(1) of the Nursing Act (Act 33 of 2005),

allowing them to engage in the practice of nursing or midwifery. Nurses may work in various settings, including hospitals, clinics, schools, and community organizations. They play a crucial role in patient care, administering treatments, educating patients, and advocating for their well-being (Smith, 2023). In this study a nurse refers to a health professional that care of sick neonate in NICU**.**

1.5.8 Participants: it refers to individuals who take part in a specific study (Polit, 2017). In this study are individuals who are involved in a study by providing data, responses, or information.

1.5.9 Parents: According to the WHO parents are primary caregivers who include biological parents, a family member, or any other person responsible for the care of a child. In this study parents refer to the mothers and fathers of the infants who makes the child safe, secured and protected.

1.6. CONTEXT/SETTING

The study was conducted in a public academic hospital in Gauteng Province. An academic hospital is a healthcare facility that is often linked to a medical school or university and closely affiliated with training. At an academic hospital, education, research, and clinical care are combined to provide the best possible clinical care (latifi, 2019).

The hospital where the study took place provided specialized care and acted as a referral hospital as a Level 3 hospital. Neonatal Intensive Care Units provided care for babies who needed special treatment for critical illnesses in the first few weeks and months of life due to being born premature, having low birth weight or needed care for other medical or surgical neonatal health issues. This academic hospital received babies from Level 1 and Level 2 hospitals who cannot be cared for in the referring hospital or do not have neonatal intensive care facilities, or do not have appropriate specialised healthcare professionals such as a paediatric surgeon or paediatric cardiologist. The following table depicts the number of neonatal nurses and bed occupancy in the NICU.

Table 1.1: Number of staff

Category of staff	**Number of staff**
Professional registered nurses (including the operational manager) who have the additional qualification in Neonatal Nursing	16
Professional registered nurses	3
Enrolled nurses	2
Total for NICU	**21**

Table 1.2: Type of beds and specialized activities

Number and type of beds	**Specialized activities**
• 10 neonatal intensive beds • 2 isolation rooms	Specialized activities for advanced neonatal medical/surgical care (including specialized cardiac and orthopaedic care): ⇒ Haemodynamic and seizure monitoring ⇒ Ultrasound: general, cardiac, and head ⇒ Specialized investigations, including lumbar puncture ⇒ Advanced physiological support ⇒ Ventilation and oxygen support (intubation, invasive and non-invasive ventilation, oscillation) ⇒ Nitric oxide administration via ventilation/oscillation ⇒ Administration of medication, including Surfactant ⇒ Insertion and removal of intercostal chest drains, central venous -, umbilical -, arterial - and Broviac™ catheters ⇒ Body cooling ⇒ Blood exchange ⇒ Pre- and postoperative care for major surgical procedures ⇒ Screening (including retinopathy of prematurity screening) and discharge planning

Before the COVID-19 pandemic, parents of infants in the NICU in the context were allowed to visit their babies for extended periods, including holding and feeding them. The goal was to promote parent-infant bonding and attachment, which has been shown to have positive effects on infant development (Mahoney, 2020) (Moullin, 2014). Skin-to-skin contact and/or intermittent kangaroo care was encouraged to help regulate the infant's temperature, promote breastfeeding, and enhance the bond between parent and baby. Parents were also involved in the care of their infants and received education and training from NICU staff on how to provide appropriate care and support for their babies.

The NICU staff worked closely with parents to create a family-centred care approach that prioritized the emotional and physical well-being of both the baby and the parents. This approach recognized that parents play an essential role in their baby's care and development, and that their involvement can have long-lasting positive effects (Mahoney, 2020).

The first COVID-19 restrictions in South Africa were implemented on March 15, 2020, as measures to curb the spread of the virus, then later there was a nationwide lockdown from March 27, 2020, and lasted for several weeks (SACoronavirus.co.za). During the COVID-19 pandemic, the NICU was subjected to specific restrictions to protect these vulnerable and small infants and their families and to prevent the spread of the virus. These restrictions included reduced visiting time for parents and limited touching and holding of their babies.

According to the researcher’s observations. the restrictions had a significant impact on parent-infant bonding and attachment, as parents became disrupted in their emotional connection with their babies and were unsure about their role as caregivers. The restrictions in NICU during the pandemic highlighted the challenges faced by parents and nurses in maintaining parent-infant bonding and attachment during this time of crisis. It also highlighted the importance of finding ways to support parents in maintaining this bond during difficult circumstances.

Levels of restriction and influence on the activities in the context

The gradual easing of the lockdown is facilitated by the implementation of a five-level COVID-19 alert system. This approach considers various factors, such as infection rates, transmission rates, health facility capacity, the extent of public health interventions, and the economic and social repercussions of ongoing restrictions (Gazette, 2020).

The different levels of restrictions in the South African context were classified as follows:

Table 1.3: Illustration of lockdown levels

Level 5 restrictions started on 27 March 2020 until 1 May 2020 and hospitals were only allowed to perform emergency surgeries and other essential medical procedures, while all elective surgeries and non-essential medical procedures were postponed. Visits to hospitals were strictly prohibited, except for specific circumstances, such as end-of-life care. The hospital limited the number of visitors to the NICU and allowed only one parent to visit their baby. Parents were required to wear personal protective equipment such as masks and gloves and were often screened for COVID-19 symptoms before being allowed into the NICU. The NICU staff wore personal protective equipment, and strict infection prevention and control measures were implemented. This level of restrictions limited visitations to a certain time duration, allowed only one parent and prevented skin-to-skin contact. Should it be the mother who visited the baby, the father was not allowed visitation and attachment and bonding was interrupted for this parent.

Level 4 restrictions started on May 1, 2020, until May 31, 2020, with similar restrictions applicable to the NICU as explained for Level 5.

Level 3 restrictions were implemented on June 1, 2020, until December 28, 2020. During this level of lockdown, hospitals were allowed to resume most non-essential medical procedures, although the number of patients allowed in the hospital was limited to ensure social distancing. Visits to the NICU were still strictly limited, and only one visitor was allowed per infant and no swapping or changing of visitors was permitted. Parents were still required to wear personal protective equipment, and infection prevention and control measures were still in place. The effect of these restrictions did not differ from those on levels 5 and 4.

Level 2 restrictions came into effect on December 29, 2020, until May 30, 2021, and extended from May 31, 2021, to December 25, 2021, when the hospital allowed both parents visitation to their baby in the NICU, as long as mask-wearing was practiced. Screening of COVID-19 symptoms was done as an infection prevention and control measure. On this level touching and handling of the infants by the parents were allowed and a degree of attachment and bonding was in place.

Level 1 restrictions were implemented from December 26, 2021, to January 25, 2022. Both parents were allowed to visit their baby in the NICU while wearing a mask and screening for COVID-19 symptoms was done as infection prevention and control measures.

Adjusted Level 1 restrictions were implemented from January 26, 2022, to March 1, 2022. Restrictions included a curfew from 12 am to 4 am and a limit of 50% capacity for indoor gatherings and 100 people for outdoor gatherings. Both parents were allowed to visit their baby in the NICU only wearing a mask. Screening of COVID-19 symptoms was done as an infection prevention and control measure.

1.7 DELINEATION

The study was conducted in the NICU of a selected hospital in the Gauteng Province. Participants were the parents who had infants in the NICU during the period of COVID-19 restrictions, and nurses who dealt with lingering challenges of the COVID-19 restrictions on bonding and attachment.

1.8 SIGNIFICANCE / CONTRIBUTION

The significance of the study included:

- Contributing to the neonatal nursing practice to assist parents and staff in the NICU to facilitate ways to become more involved in the care of their infants and improve bonding and attachment with their sick infants in the NICU amidst restrictive practices.
- Contribution to the health care facility as the findings can assist in policy review to improve parent-infant bonding and attachment with consideration of infection prevention and control strategies.
- Findings and recommendations can be used for teaching and in-service education to inform the staff who are working in the NICU how to facilitate bonding and attachment in the NICU during and after COVID-19.

1.9 PARADIGM AND ASSUMPTIONS

Paradigms are perceived by (Kivunja, 2017) as the way a researcher views and understands the world and constructs meaning from the data generated.

Paradigms guide research in terms of what is studied, how it should be studied and include interpretation of the results (Kivunja, 2017). Paradigms are made up of different elements, according to (Guba, 2005) that form assumptions, beliefs and norms for the different paradigms. This study adopted a constructivist philosophical paradigm as the approach to allow the researcher to understand the participants' experiences and reflect on those experiences as described (Adom, 2016). The researcher explored and described the challenges of parents and nurses to facilitate parent-infant bonding and attachment in a NICU as a result of the COVID-19 pandemic. The following assumptions for the constructivist paradigm were applicable:

- Subjectivist epistemology where the researcher generated meaning from the data by focusing on thinking and reasoning based on the data and interactions with the participants. The researcher and the participants engaged in interactive processes during data collection where they listened, questioned, read and interacted. This embedded the belief that knowledge could be created by findings (view Chapter 2).
- Relativist ontology implied that the researcher believed a situation had multiple realities and that realities could be explored, described, and meaning constructed through interactions between the researcher and the participants. In this study, the researcher selected a sample to act as participants to explore and describe the challenges to facilitate parent-infant bonding and attachment in the NICU as a result of the COVID-19 pandemic (view Chapter 2).
- Naturalist methodology assumed that the researcher could collect data through methods such as interviews to be utilized by the researcher. In this study, the researcher conducted face-to-face interviews as well as Microsoft Teams™ interviews and used probing and semi-structured questions for data collection (view Chapter 2).

1.10 RESEARCH DESIGN

A research design is the overall approach to address a research question (Polit, 2017). In this study, a qualitative, explorative, descriptive design was used. Within the naturalist approach of constructivism, the researcher interacted with participants to collect in-depth descriptions to explore and describe the challenges

faced by nurses and parents to facilitate parent-infant bonding and attachment in the NICU as a result of the COVID-19 pandemic. The design is discussed in more depth in Chapter 2.

1.11 METHODS

The selected method for data collection was face-to-face semi-structured interviews and Microsoft Teams™ interviews to generate data that reflected the challenges to facilitate parent-infant bonding and attachment in the NICU as a result of the COVID-19 pandemic. The researcher spent 30 minutes to 45 minutes with the participants to explore, capture, understand and describe the nurses' and parents' views of the challenges they faced to facilitate parent-infant bonding and attachment in the NICU as a result of the pandemic (view Chapter 2). The methods used in this study are summarized in the following sections and in-depth discussions follow in Chapter 2.

1.11.1 POPULATION

A population is the entire set of individuals that have the same characteristics (Polit, 2017)(view Chapter 2).

1.11.2 SAMPLING METHOD AND SAMPLE SIZE

A convenient sampling method was used. The parents and nurses included in the sampling are discussed in detail in Chapter 2.

1.11.3 DATA COLLECTION AND ORGANISATION

Data collection is a process of collecting information to address a research problem (Polit, 2017). Data were collected using face-to-face semi-structured interviews and Microsoft Teams™ interviews after receiving permission from the University of Pretoria post-graduate Ethics Committee, Gauteng Provincial Health Committee, and the CEO of the hospital. Please refer to Chapter 2 for a detailed discussion on data collection and organization.

1.12 DATA ANALYSIS

Data analysis is the approach in which the researcher collects data and analyses it for themes and reports on four to five themes (Botma, 2010). Tesch's eight steps

were used to analyse the data as described by (Creswell, 2018). In-depth discussions are in Chapter 2.

1.13 RIGOUR / QUALITY CONTROL

Rigour in qualitative studies "signals openness, relevance, epistemological and methodological congruence, thoroughness in data collection and data analysis process and the researcher's self-understanding" (Brink, 2018). By using credibility, confirmability, transferability, dependability and authenticity, the trustworthiness of this study was enhanced.

- **Credibility** refers to having confidence that the data and interpretation is truthful (Polit, 2017). The researcher used audio recording and field notes during data collection to accurately capture the data. The researcher used a peer researcher who signed a confidentiality consent to review the analysis to check for accuracy. During the interviews, the researcher confirmed her interpretations with the participants for accuracy as a method of member checking. Another method the researcher employed was prolonged engagement as the researcher is familiar with the context and understands the dynamics, the nurses, and the parents, as well as the process of attachment and bonding.
- **Confirmability** is the fact that data is accurate, relevant and that meaning exists between two or more independent individuals (Polit, 2017). The researcher used quotations to show the meaning of participant's comments and the interpretation thereof. This was accomplished by incorporating an audit trail of detailed recordings of the interviews, transcripts, field notes and the process of interviews to ensure that the findings could be followed to guarantee confirmability.
- **Transferability** is the extent to which findings can be transferred to or have applicability in other settings (Polit, 2017) without changing the meaning of the data or findings through thick descriptions and detailed discussions. This was established by using and describing the data and findings to provide evidence of how the results and recommendations were obtained and to allow other researchers to decide about the applicability in other contexts or situations.
- **Dependability** refers to the reliability of information overtime and situation (Polit, 2017) to ensure the stability of data. The researcher kept detailed

information as field notes to make a dependable trial available for anyone concerned.

- **Authenticity** refers to the researcher showing a fair and faithful range of realities (Polit, 2017). The researcher explored the meaning of the different views of the nurses and parents to explore and describe what the participants regard as challenges they faced to facilitate parent-infant bonding and attachment in the NICU due to the COVID-19 pandemic.
- **Recall bias** refers to when participants do not remember previous experiences correctly or omit certain information as the accuracy and volume of memories may be influenced by subsequent events and experiences (Spencer, 2017). The researcher ensured that the way questions were asked do not influence the participants' answers by asking open-ended questions such as “what do you think can be used/done to facilitate bonding and attachment in the NICU during the COVID-19 pandemic?” Participants were given sufficient time to adequately recall information from long term memory. Data were excluded when participants were unable to remember correctly or did not have clarity of information then (view Chapter 2). According to (Althubaiti, 2016), recall bias becomes a possibility when a period of time elapsed between the experience and the narrative (data collection). The researcher acknowledges that recall bias may occur but has put mechanisms in place to identify and manage the information (view Chapter 2).

1.14 ETHICAL CONSIDERATIONS

Ethics is a system of moral values that is concerned with the standard of research procedures are done right or wrong, professionally, legal and social obligations towards study participants are met (Polit, 2017). The three ethical principles of the Belmont Report are applicable during research, namely the principle of beneficence, the principle for respect of human dignity and the principle of justice (Polit, 2017). These principles were observed by the researcher when conducting research that involves human participants. Approval was obtained from the Research Ethics Committee of the Faculty of Health Sciences of the University of Pretoria, the Gauteng Department of Health, and the Chief Executive Officer at the

selected public hospital before data collection (view Annexures C3, C4, C5 and C6).

The following ethical principles were applicable:

- The principle of justice refers to the right of participants to be fairly selected and treated, and their information to be managed confidentially (Brink, 2018). All participants who met the inclusion criteria had an equal opportunity to participate in the study. The researcher informed participants that their names and any other personal information would be kept strictly confidential. The researcher maintained the privacy of the participants by ensuring that no questions that might invade their privacy or that might let them lose their dignity or might embarrass them, were asked. The results of the findings would be published or presented in such ways that participants' information remains confidential (view Chapter 2).
- The principle of beneficence and non-maleficence focused on protection of participants from discomfort and harm (Brink, 2018). Participants were treated with respect and given equal opportunity to respond without being judged. All protocols regarding COVID-19 were followed and the researcher made sure that the room used for interviews would accommodate social distancing, wearing of marks throughout the face-to-face interviews, the availability of hand sanitizer available in the room and screening of participants for COVID-19 symptoms to ensure the necessary protection amidst the pandemic. Parents who required emotional support or any other support were referred to the correct department (view Chapter 2).
- The principle of respect for human dignity entails a process of information sharing and decision-making based on mutual respect and participation (Brink, 2018). The participants were informed that their participation was voluntary, and they were free to withdraw anytime without being punished. The researcher had obtained informed consent from the participants which implied that the ethical principles of voluntary participation and protecting the participants from harm were honored in the concept of informed consent (view Annexure B1 and B2) and no participant were coerced to take part in this study.

  Under the Protection of Personal Information Act (Act No 4 of 2013: Section 18) consent implies a voluntary, informed, and specified explanation of the

reason(s) for which permission is requested and given for the processing of personal information in terms of the following:

- Type of data to be collected, reasons and purpose, therefore.
- Whether data will be shared with third parties
- Details of the responsible party
- Information about the right to object to processing information.
- Information about where to direct complaints.

The researcher ensured that all research-related activities and actions had abided, and information legally conformed to the above-mentioned act (Act no 4 of 2013). The clarifications under Ethical considerations (view Section 1.14) and Annexures B1 and B2 explained the intent of the researcher and the steps that were followed.

1.15 LAYOUT OF THE STUDY

The layout of the study is as follows:

- Chapter 1: Introduction and overview of the study which included the background to the study and discussed the reasons for conducting the study. The aim and objective, research design, research methods and ethics are briefly introduced.
- Chapter 2: Discussion of the methodology used to collect and analyse the data.
- Chapter 3: Presents the findings of the study using themes and categories. Discussions in this chapter are based on narratives of the participants and supported by literature evidence.
- Chapter 4: Concluded the study by summarizing the main findings of the study, offers recommendations and reflects on the limitations.

1.16 SUMMARY

This chapter is an introduction and overview of the study which provides the background, literature review, problem statement, research question, aim and objectives of the study. The next chapter will discuss the methodology that was followed in this study.

Chapter 2: RESEARCH DESIGN AND METHODOLOGY

2.1 INTRODUCTION

Chapter 1 was an introduction chapter which provided a clear and concise introduction to the research topic and established a rationale for the study. Chapter two describes the research design and methodology used during the study. The research design is qualitative, and it explored and described the views of parents and neonatal nurses regarding challenges faced by parents and nurses to facilitate parent-infant bonding and attachment in a NICU as a result of the COVID-19 pandemic.

The research method, population and sampling, data collection and analysis, together with the measures used to ensure trustworthiness were discussed in Chapter 1. The ethical considerations were discussed in the previous chapter. The demographic data and findings of the study are discussed in Chapter 3.

2.2. RESEARCH DESIGN

A qualitative, explorative descriptive design was used. Qualitative research requires in-depth information from different participants to obtain knowledge and understanding of their beliefs, views, and attitudes independently (Nassaji, 2015).

2.2.1 Qualitative research design

Qualitative research design is a research methodology that is focused on understanding human behaviours and experiences through the collection and analysis of non-numerical data (Patton, 2015). Qualitative research requires in-depth information from different participants to obtain knowledge and understanding of the beliefs, views, and attitudes (Geri LoBiondo-Wood, 2016) (Nassaji, 2015). Qualitative research aims to explore and understand the complexity and richness of human experiences, rather than quantify and measure them (Patton, 2015).

A qualitative research design was used because the research questions involved exploring people's perceptions and experiences regarding challenges faced by parents and nurses to facilitate parent-infant bonding and attachment. Qualitative

research typically involves collecting data through methods such as interviews, observations, and document analysis. The data was collected and then analysed using techniques such as coding, categorization, and interpretation (view section 2.6).

In this study, an exploratory and descriptive qualitative research design was followed. The researcher conducted face-to-face interviews as well as Microsoft Teams™ interviews where data were collected from nurses and parents regarding challenges, they faced during COVID-19 in facilitating parent-infant bonding and attachment in the NICU. The researcher found this approach useful and flexible, allowing for the adaptation of research methods and questions as data was collected. This method also allowed the researcher to develop a deeper understanding of the research topic.

2.2.2 Explorative design

(Stebbins, 2001) defined exploratory research as "a broad-ranging, purposive, systematic and prearranged undertaking that is designed to maximize the discovery of generalizations leading to description and understanding of an area of social or psychological life". A qualitative exploratory design allows the researcher to explore a topic where there is limited information in the literature and allows the participants to contribute to the development of new knowledge in that area (Hunter, 2019).

Limited information was available about challenges faced by nurses and parents in facilitating parent-infant bonding and attachment in NICU as a result of the COVID-19 pandemic and wanted to explore it from various angles. The researcher used face-to-face interviews to explore and gain insights, identified potential problems, and generated ideas for NICU. Interviews were used to collect data using open-ended question manner which allowed the researcher to explore the topic in-depth and from multiple perspectives (view chapter 3).

2.2.3 Descriptive design

The purpose is to observe, describe and document aspects of situation as it naturally occurs and sometimes to serve as a starting point for hypothesis generation or theory development (Polit, 2017). A descriptive design is concerned with gathering data from participants and the emphasis in data collection is on structured observation, questionnaires and interview or survey studies (Brink, 2018).

The researcher directed face-to-face interviews with nurses working in the NICU during the COVID-19 pandemic and had a Microsoft Teams™ interview with parents who had an infant in the NICU as a result of the COVID-19 pandemic. The questions were asked during the interview and the participants replied which assisted the researcher to understand the challenges they faced as a result of the COVID-19 pandemic.

The researcher spent enough time with the participants in the natural context to confidently explore, capture, understand, and describe the parents' and neonatal nurses' challenges in facilitating parent-infant bonding and attachment in the NICU as a result of the COVID-19 pandemic.

2.3 POPULATION

The population of this study was parents of infants admitted to the NICU during the COVID-19 restrictive period and the period immediately following (March 2020 until April 2022) and the neonatal nurses who were working in the NICU during the same time.

2.3.1 Sampling and sampling plan

Participants were selected using a convenient sampling method. Convenient sampling is when a researcher selects participants who are readily available to participate in a study and meet the inclusion criteria (Polit, 2017).

- **Inclusion criteria**
  - The study included nurses who were working permanently in the NICU and were willing to participate.

- Parents were included who had an infant in NICU for more than two days during the period specified, were 18 years and older, were able to communicate in a South African language and were willing to participate.

- **Exclusion criteria**

  The exclusion criteria were as follows:

  - Nurses who were employed temporarily, and the operational manager because she was not directly involved with patient care to observe challenges related to bonding.
  - Parents whose infants were admitted for less than two days in the NICU, mothers who were too ill to participate (the hospital is a referral hospital for high-risk maternal cases) and those who were unable to communicate in any South African language.

2.3.2 Gaining entry

To obtain entry to the study participants in the chosen setting, one needs to rely on the support and cooperation of important gatekeepers (Polit, 2017). In this study, entry was gained through the following gatekeepers.

- The University of Pretoria's Nursing Department's Postgraduate Committee (View Annexure C3).
- The School of Healthcare Sciences' Postgraduate Committee (View Annexure C4).
- The University of Pretoria Faculty of Health Science Research Ethics Committee (View Annexure C5).
- Gauteng Department of Health Research Ethics Committee (View Annexure C1).
- Chief Executive Officer of Steve Biko Academic Hospital (View Annexure C2).
- The Clinical Education Training Unit (CETU) of the hospital

With the above approvals in place, the researcher was referred to the unit manager and the clinical head of the department of the NICU and could request access to the participants. Access was granted.

2.3.3 Recruitment of participants to the study

Recruitment of a sample refers to the process of identifying, persuading, and selecting individuals who meet the criteria for inclusion in a research study (Polit, 2017).

The researcher started with recruitment when the unit manager introduced the researcher to the neonatal staff. On that day the researcher visited the NICU, the researcher explained to the neonatal nurses what the study was about, and she answered all questions regarding participation or the study. Informed consent forms were left and a list for where participants who wanted to volunteer could fill in their details so that the researcher was able to call them to schedule an appointment.

During the recruitment of parents, the researcher had to look at the admission book to sample parents who were admitted from March 2020 to April 2022. The researcher also went to the high-risk and neurology clinics to invite parents attending follow-up appointments and whose babies had been in the NICU during the specified period, to participate. When they were interested in participating and met the inclusion criteria, a convenient date and time was arranged to conduct face-to-face or Microsoft Team™ interviews.

2.4 DATA COLLECTION: INTERVIEWS WITH NEONATAL INTENSIVE CARE NURSES

Data were collected from the neonatal nurses as well as parents after permission from all the gatekeepers was obtained. Face-to-face interviews were used to collect data from the neonatal intensive care nurses, and telephonic or Microsoft Teams™ interviews were held with the parents.

2.4.1 Data collection instrument

The researcher created a research interview guide which is a document that outlines the key questions and prompts that the researcher planned to use during an interview with a participant. This interview guide is a structured framework that provides a roadmap for the interviewer to follow, ensuring that all relevant topics are covered in a consistent and systematic manner**.** The use of a research interview guide helped to standardize the interview process, enhancing the quality and reliability of the data

collected, and facilitating comparison across different interviews and participants (view Annexure A).

2.4.2 Individual semi-structured interview

A semi-structured interview is an interview where the researcher has a list of topics to cover rather than specific questions to ask (Polit, 2017). A face-to-face semi-structured interview was used, and the researcher had a list of questions which all participants were asked, followed by probing questions to obtain more information or clarify meaning (view Annexure A). The researcher was the interviewer asking questions and writing field notes while recording it.

An individual semi-structured interview is a research method that involves a one-on-one conversation between a researcher and a participant where the researcher asks the predetermined questions but can also explore new topics that emerge during the conversation (Pilot, 2017). In this study, an individual face-to-face semi-structured interview was used to gain insights into the perspectives, experiences, and attitudes of individuals on challenges nurses and parents faced to facilitate parent-infant bonding and attachment in NICU during COVID-19. The interviews were face-to-face where the researcher and participant were in the same environment during the interview, or telephonically where the method of conversation was done in the format of a call (telephone or cell phone), or as an online meeting with Microsoft Teams™, which is a virtual platform where both are engaging on a computer or smartphone to communicate.

- **Advantages of interviews**

The following are the advantages of interviews (Polit, 2017):

  - **Respond rate**

    There is generally a likelihood of obtaining a higher response rate. Participants may feel more obligated or motivated to participate when being directly approached by an interviewer. Virtual interviews can offer convenience to participants, especially if they have time constraints or geographical limitations. This convenience may increase the likelihood of

participation, resulting in a potentially higher response rate compared to other methods like mail surveys.

- **Missing information**

  Interviewers have the advantage of observing non-verbal cues, body language, and facial expressions. These visual cues can provide additional context and help clarify responses. Interviewers can also probe further or ask follow-up questions to gather more complete information**.** While virtual interviews may lack the same level of non-verbal cues as face-to-face interviews, they still allow for real-time interaction between the interviewer and the participant. Video conferencing tools can capture some visual cues, although they may be limited. Virtual interviews can still enable interviewers to ask probing questions and clarify responses, minimizing missing information.

- **Order of questions and flexibility**

  Interviews are flexible in terms of the types of questions that are asked, the order in which questions are asked, and the ability to probe for more detailed answers.

- **Depth of questioning**

  Interviews allow for in-depth data collection, as the interviewer has an opportunity for follow-up questions and probing for more detailed information. This provides richer and more detailed data.

- **Participant engagement**

  Interviews help engage participants in the research process and create a sense of ownership over their data.

- **Clarification of responses**

  Interviews provide an opportunity for participants to clarify their responses or provide additional information, and participants can also ask questions for more understanding.

- **Supplementary data or Insights into participants' perspectives**

  Interviews provide insight into participants' perspectives and experiences that is difficult to be captured by other research methods.

- **Ability to build rapport**

  Interviews help to build rapport between the interviewer and participant, which leads to more honest and open responses.
- **Potential for new research questions**

  Interviews can generate new research questions or hypotheses based on the data collected.

- **Disadvantages of interviews**

Polit and Beck (2017) identify several disadvantages of interviews as a data collection method in research, such as:

- **Respondent bias**

  Interviews are prone to create respondent bias, which occurs when participants provide answers that they think the interviewer wants to hear or that make them look good.
- **Interviewer bias**

  Interviewer bias occurs when the interviewer influences the responses of the participant either intentionally or unintentionally.
- **Time-consuming**

  Interviews can be time-consuming to conduct, especially if the sample size is large, and it may not be feasible to interview everyone in the sample.
- **Cost**

  Interviews can be expensive, especially if travel is required to reach participants or if a professional interviewer is hired to conduct the interviews.
- **Limited generalizability**

  Findings from interviews may not be generalizable to a larger population, as the sample may not be representative of the population.
- **Incomplete data**

  There is a risk of obtaining incomplete data, particularly if the interviewer fails to ask all relevant questions or the participant is hesitant to disclose certain information.

- **Ethical concerns**

  Interviews may raise ethical concerns if participants are asked to disclose sensitive or personal information, and care must be taken to protect their privacy and confidentiality.

In this study the choice of interviews as a primary method in our study on the challenges faced by parents and nurses in facilitating parent-infant bonding during COVID-19 in the neonatal ICU was driven by the need to capture the nuanced experiences and perspectives of individuals directly involved in the caregiving process. Interviews provide a unique opportunity to delve into the intricacies of emotions, strategies, and obstacles faced by parents and nurses in the delicate context of neonatal care. The dynamic nature of the topic requires a qualitative approach to unravel the subjective dimensions of the challenges encountered, making interviews an ideal choice for this study. The choice of interview type depends on factors such as participant preferences and logistical constraints. In the context of our study, utilizing a mix of face-to-face and Microsoft Teams™ interviews ensures a comprehensive understanding

2.4.2.1 Face-to-face interviews

Advantages: Rich non-verbal communication cues such as body language and facial expressions can be observed. Builds rapport and trust, fostering a more open discussion.

Applicability: Suitable for in-depth exploration of sensitive topics where visual and emotional cues are crucial and most of the participants were nurses and in their work environment.

2.4.2.2 Microsoft Teams™ (or video) interviews and telephonic interviews:

Advantages: Combines the benefits of face-to-face and telephonic interviews and allows for visual interaction while maintaining the flexibility of remote participation. Overcomes geographical barriers, allowing participation from diverse locations and encouraging more candid responses.

Applicability: Ideal when participants may face logistical challenges attending face-to-face interviews, and most were parents as participants felt safe in their own space as they felt that they rather do it via teams.

2.4.2.3 Pilot interview

A pilot interview is a trial run of an interview done to prepare for a major interview (Polit & Beck 2017). It can be done to find out the practicality and to support the clarification, protocols, procedures, and methods to use in a large-scale study (Polit & Beck 2017). A pilot interview can help identify flaws and limitations within the interview design allowing necessary fixing to the major study (Majid, 2017).

The researcher conducted a pilot interview to test for reality of the study, to gain practice in interviewing, review the quality of the questions and decide if the quality of the findings was in line with the aim and objectives of the study.

The pilot interview was done with one parent (02/02/2023 at 07:34) and one neonatal nurse (02/02/2023 at 18:51). The interview with the parent happened at her place because she was a businesswoman and could not close the spaza shop. The researcher noticed that some questions in the guide were repetitive but phrased differently. Another pilot happened at the hospital in the counselling room with a neonatal nurse before she started her shift.

Before the interviews started the researcher explained the purpose and asked for consent to record the interview. During the pilot interviews, the researcher assessed for clarity of the questions and if the answers contributed to the achievement of the research objectives. The repetitive questions were removed.

2.4.3 Conducting the interviews with the nurses in the Neonatal Intensive Care Unit

The researcher arranged meetings for the interviews with the nurses who indicated willingness and met the inclusion criteria, according to timeslots that suited them best and did not interfere with continuity of care. The interviews were conducted by the researcher in English as all nurses employed at the hospital are competent in speaking English. The interviews were held in the counselling room of the selected hospital as it provided comfortable seating and privacy without interruptions.

- **Interview phase**

Most of the interviews with the neonatal nurses were done during their tea or lunch time. The interviews started with greeting them, explaining the purpose of the interview, obtaining their consent to continue and to record the interview (view Annexures B1 and B2), and then asking the research questions. The researcher asked a central open-ended question that was designed to elicit detailed responses from the interviewee. Follow-up or probing questions were asked to clarify or expand on the responses (view Annexure A).

The research question was: **"What are the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic?"** The researcher started the interviews by asking the participants to tell her what the challenges were and what made it difficult during COVID-19 for parents to bond with their babies. The researcher probed when needed and listened attentively to the interviewee's responses, taking notes, and paying attention to nonverbal cues. The interview was recorded to allow for more accurate transcription and analysis later. The audio recording was labelled according to the participant who was interviewed for example the first neonatal nurse to be interviewed was recorded as NP01, then the parent was PP01 to prevent mix-up of information. The researcher thanked the interviewees for their time and concluded the interview. The interviews took 30 to 45 minutes each.

- **Field notes**

Field notes are a type of qualitative data collection in research. They are a written record of observations, conversations, and interactions that occur during a research study and are typically recorded by the researcher in real-time. The aim of field notes was to write unstructured observations which were made and captured during the interview as suggested by Polit and Beck (2017) to support and enrich data analysis. The notes that the researcher noted were when the participant's non-verbal communication indicated specific meaning.

- **Post-interview procedures**

Post-interview procedures refer to checking the recorded interview for audibility and completeness immediately after the interview is a good practice in qualitative research. This step ensures that the data collected is of high quality and that any potential issues with the recording can be addressed promptly (Polit, 2017). After the researcher had conducted a research interview, several important post-interview procedures were followed to ensure the accuracy and completeness of the data, which included transcription, analysis, and storage.

The researcher transcribed the recordings into written texts. This involved listening to the recording and typing out what was said verbatim. Transcription helped the researcher to analyse the data in written form and helped to ensure accuracy and completeness.

2.5 DATA MANAGEMENT AND ANALYSIS

Data management involves the process by which the researcher transforms the gathered data into smaller, more easily handled units of information (Polit, 2017). From the recorded interviews, the researcher systematically constructed findings to address the research question. Following the collection of information concerning challenges experienced by parents and nurses in facilitating parent-infant bonding in the NICU during the COVID-19 pandemic, the researcher possessed data in the form of interviews and field notes. According to Polit and Beck (2017), the next phase involves data analysis, encompassing tasks such as organization, transcription, and the attribution of meaning to the collected data.

After the interview had been transcribed, the data had to be analysed to identify key themes. This involved coding the data and categorizing responses to make sense of the data (Botma, 2010). Tesch's eight steps were used to analyse the data as described by (Creswell, 2018). The findings are discussed in Chapter 3.

Tesch's eight steps of data analysis:

1. The first step involved getting organized by preparing the data for analysis. This involved transcribing interviews, creating a data management system, and establishing a coding system. The researcher listened to the recording and typed out what was said verbatim, then read and familiarized herself with the data to gain an overall sense of the information that had been collected.
2. This step involved reading through the data several times to gain a general understanding of the content. The researcher selected one interview, read it and wrote what she thought about the data.
3. The next step was the initial coding of the data. This involved identifying and labelling meaningful segments of text. The researcher created a list with similar thoughts grouped them and formed major headings with it.
4. Once the initial coding was completed, the next step was to develop categories based on the codes. This involved grouping related codes together to form overarching categories.
5. The following step involved reviewing and refining the categories to ensure they accurately reflected the data.
6. Once the categories were established, the next step was to define and name each category.
7. This was followed by the step to involve the creation of a codebook, which documented the codes and categories used in the analysis.
8. The final step involved applying the analysis to the entire dataset. This involved coding and categorizing all the data and using the categories to draw conclusions and identify patterns in the data.

Data saturation was reached after the fourteen neonatal nurses were interviewed. Data saturation is the collection of qualitative data to the point where a sense of closure is attained as new data gives inessential information (Polit & Beck 2017).

2.6 DATA COLLECTION AND ANALYSIS: INTERVIEWS WITH PARENTS

The interviews with the parents followed the same steps as the interviews with the nurses as described in section 2.4, and the analysis thereof as described in section 2.5. Few interviews took place in the counselling room and at the participant's home.

Most of the parents preferred to be interviewed via Microsoft Teams™ as some of them were working, for others the hospital was too far for them to come and others verbalized that they were not sure if this was a scam or, and then chose Microsoft Teams™. The researcher described the aim of the interview, seeking approval to proceed and record the conversation (refer to Annexures B1 and B2). The researcher proceeded to pose the research questions. Employing an open-ended question, designed to draw out comprehensive responses, the researcher utilized follow-up and probing questions to clarify or elaborate on the initial answers (refer to Annexure A). It's important to note that despite these differences in settings, the data analysis procedures remained consistent and similar across all interview formats, ensuring a uniform and reliable approach to derive meaningful insights from the gathered information. Data saturation was reached after the researcher had interviewed ten parents. The interviews took 30 minutes to 45 minutes to an hour of the parents' time.

2.7 INTERPRETATION

Interpreting in research refers to the process of analysing and making sense of research findings, data, or information. This involves making judgments or drawing conclusions based on the results of the analysis. In this study the researcher used Tesch's eight steps to analyse the data (view Chapter 3).

2.8 RIGOUR (TRUSTWORTHINESS)

The strategies to enhance trustworthiness were discussed in Chapter 1, and relate to credibility, dependability, transferability, confirmability and authenticity.

2.9 ETHICAL CONSIDERATIONS

A detailed discussion was provided about the strategies that were used for ethical considerations and the application thereof in this study, in Chapter 1.

2.10 SUMMARY

In this chapter, the research design and methodology were discussed. The researcher indicated the way data were collected and analysed. Chapter 3 will discuss the findings.

CHAPTER 3: DISCUSSION OF THE FINDINGS AND LITERATURE CONTROL

3.1. INTRODUCTION

This chapter will discuss the findings of the data analysed. The aim was to explore and describe the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in the neonatal ICU as a result of the COVID-19 pandemic. The finding of this study was taken from the data gathered from the face-to-face and Microsoft Team™ interviews. The demographic data will be discussed, followed by the themes and categories. The direct quotes from the participants are indicated in italics. The literature control is done related to the themes and categories and included in the respective sections..

3.2. DEMOGRAPHIC INFORMATION OF THE PARTICIPANTS

The sampling included 11 parents who had infants in the neonatal ICU and 14 neonatal nurses who worked in neonatal during the COVID-19 pandemic. The study included a diverse group of participants, encompassing both nurses and parents from various backgrounds. The demographic information of the participants is summarized below:

3.2.1 Age distribution of parents

Figure 1A illustrates the age distribution of the parent participants involved in the research. Age distribution of the parents is crucial for understanding the sample characteristics.

Among the parents included in the study, there were 18% of individuals aged 22-25, 18% aged +26-30; 46% aged 31-36; and 18% aged 37-45. This distribution provides insight into the age range of the parents involved in the study, which is important for analysing potential differences in experiences, coping mechanisms, or perspectives across different age groups.

For instance, younger parents in the 22-25 and 26-30 age brackets may face distinct challenges related to their stages in life, such as financial constraints, lack of parenting experience, or concerns about balancing childcare with other

responsibilities. On the other hand, older parents in the 31-36 and 37-45 age groups may encounter different obstacles, such as managing career demands alongside caregiving responsibilities or navigating health concerns related to their age (Duncan, 2018).

Understanding the age distribution of the parents allows for a more nuanced interpretation of the findings regarding challenges faced in the NICU during the COVID-19 pandemic. It can also inform recommendations for tailored support strategies or interventions to address the diverse needs of parents across different age group

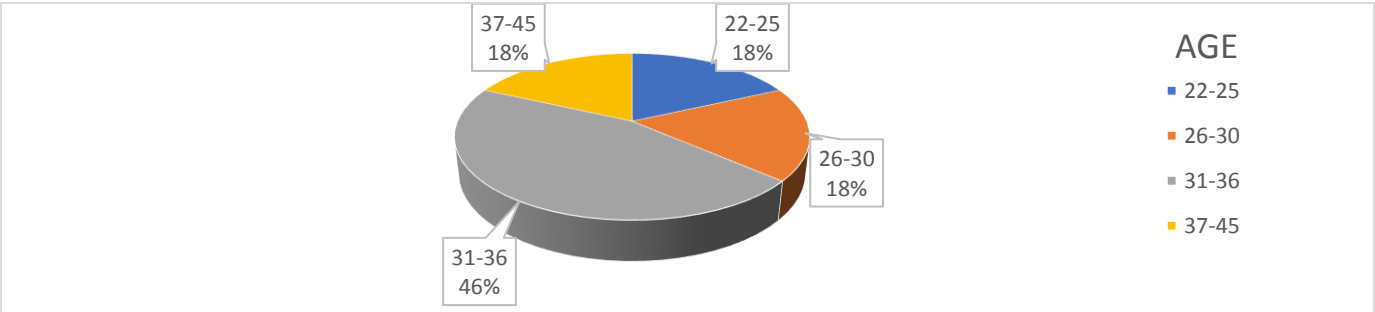


Figure1A: Age distribution of parents

3.2.2 Gender distribution of parents

Among the parents included in the study, there were 91% females and 9% male which is illustrated by Figure 1B below. This gender distribution provides valuable insight into the representation of male and female parents in the study population. Traditional gender roles often assign primary caregiving responsibilities to females (Hatch, 2018). Therefore, the higher number of female participants might reflect their greater involvement in the caregiving process within the NICU, which could influence their experiences and challenges in bonding with their infants during the pandemic. Societal norms and expectations regarding parenting roles and involvement may influence the willingness of individuals to participate in research studies.

Examining the gender composition allows for understanding potential differences in experiences, perspectives, and coping mechanisms between male and female parents facing the challenges of the NICU environment during the COVID-19 pandemic. According to research gender may influence parental roles,

responsibilities, and coping strategies in the context of caring for a preterm or critically ill infant in the NICU. Female parents may experience unique emotional stressors, such as feelings of guilt, anxiety, or maternal instinct, while male parents may grapple with societal expectations of masculinity, feelings of helplessness, or challenges in establishing a bond with their infant (Ionio, 2019).

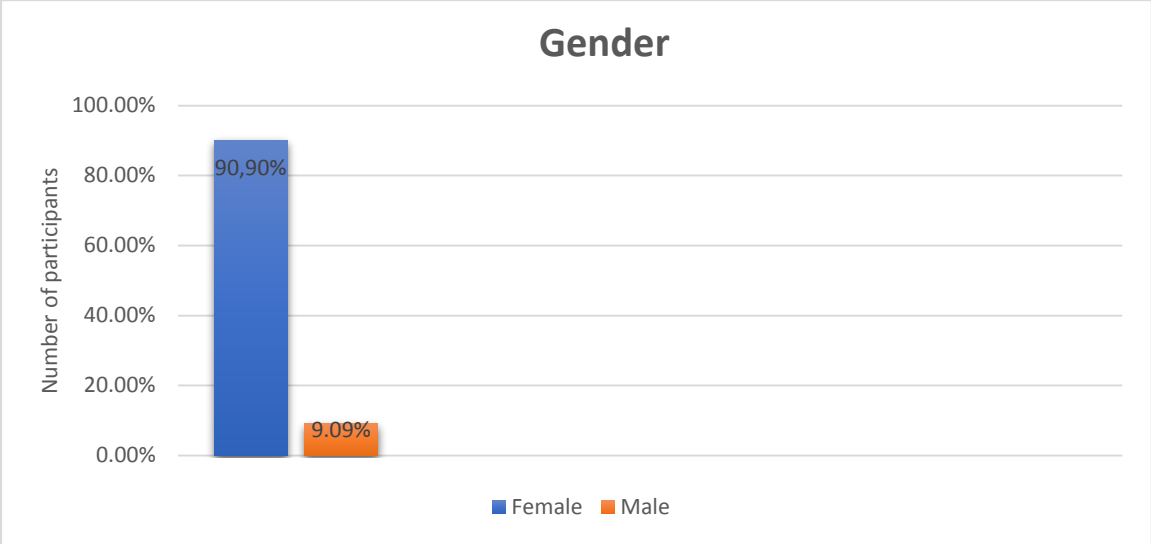


Figure 1B: Gender distribution of parents

3.2.3 Employment status of parents

The employment status of the participants offers valuable insight into the socioeconomic context and potential factors influencing their experiences and challenges. Figure 1C shows the parent participants: 2 were unemployed, 1 was self-employed, and 8 were employed. This distribution provides a snapshot of the diverse employment statuses represented within the sample. Unemployment among parents may introduce additional stressors, such as financial strain, or concerns about job stability, which could impact their ability to cope with the challenges of having an infant in the NICU during the COVID-19 pandemic. On the other hand, employed parents may face different challenges, such as balancing work responsibilities with caregiving duties. The presence of a self-employed parent introduces another dimension, as they may encounter unique challenges related to maintaining their business or managing work responsibilities while attending to the needs of their infant in the NICU. Understanding the employment status of the parent participants allows

for a more comprehensive analysis of the socioeconomic factors influencing their experiences and coping mechanisms in the NICU environment during the pandemic. It also enables researchers to tailor support interventions or resources to address the specific needs and challenges faced by parents across different employment statuses.

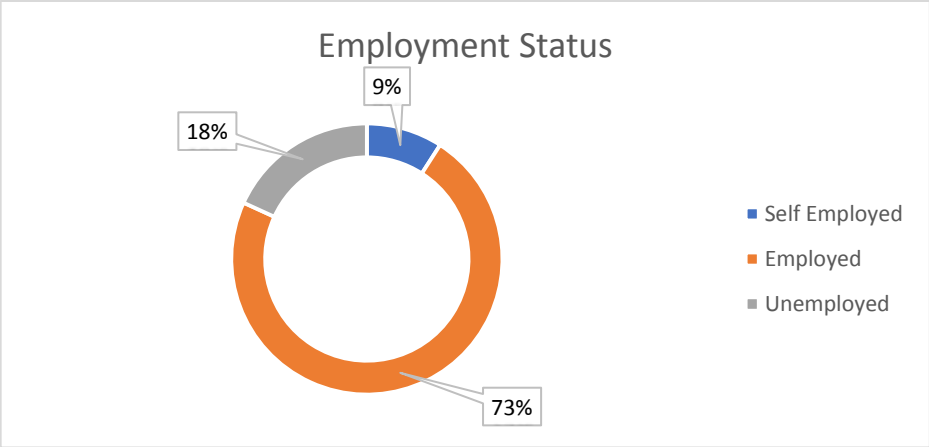


Figure 1C: Employment status of parents

3.2.4 Age distribution of nurses

The age of participating nurses ranged from 28 to 64 years. The age distribution of nurses in the Neonatal Intensive Care Unit (NICU) provides insights into the demographic composition of the nursing workforce in this specialized area of healthcare. Figure 2A illustrate the age distribution of nurses who participated in this study. Age <30 years (8%): this indicates that the smallest portion of nurses in the NICU are under the age of 30. These individuals likely represent newer entrants into the nursing profession. Age 30- 40 years (23%): A smaller proportion of nurses falls within this age range, comprising nearly a quarter of the workforce. Nurses in this age group have gained some experience in neonatal care. Age 41-50 years (38%): this age group represents a significant portion of the NICU nursing workforce, comprising over a third of the total. Nurses in this category are experienced practitioners who have spent a considerable amount of time working in neonatal care. Age >50 years (31%): a sizable portion of the nursing workforce in the NICU is aged 50 years and

above. These individuals have extensive experience in neonatal nursing. Some are near retirement.

According to data obtained from the South African Nursing Council (2020), the distribution of nurses across various age cohorts nationwide is as follows: individuals under 30 years of age constituted 6% of the total nursing workforce, indicating a relatively low representation in this age group. Conversely, those aged between 30 and 40 years comprised 21% of the workforce, while the age group of 40-49 years accounted for 26%, and individuals aged 50-59 years constituted 27%. Furthermore, nurses aged 60-69 years represented 17% of the total nursing workforce. These statistics align with the findings of the present research, highlighting that the age range between 40 and 59 years encompasses the highest proportion of nurses and age below 30 years have the lost portion of nurses within the surveyed.

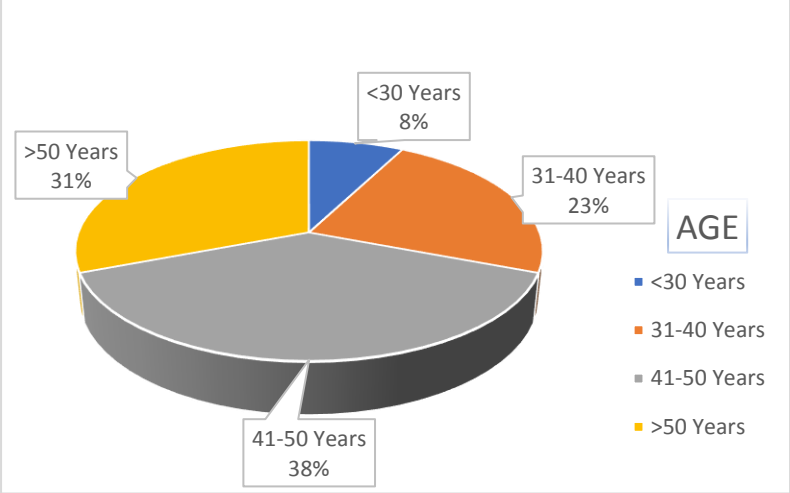


Figure 2A Age distribution of the nurses who participated

3.2.5 Gender distribution of the nurses

The gender distribution within the Neonatal Intensive Care Unit (NICU) nursing workforce, as illustrated in the Figure 2B below, demonstrates a notable gender disparity, with 100% of nurses being female and 0% male. This finding indicates a predominance of female representation within this specialized area of healthcare. According to the South African Nursing Council (SANC) (2019) on the provincial distribution of nursing manpower showed that only 10.4% of practicing nurses were male.

Several factors may contribute to this gender imbalance: historical and cultural norms in nursing have traditionally been perceived as a female-dominated profession in many societies. Historical gender norms and societal expectations may have influenced the career choices of individuals, leading to a higher representation of women in nursing roles (Teresa-Morales, 2022).

The roles within neonatal care, are often associated with caregiving and nurturing, which are attributes traditionally associated with femininity. These perceptions may influence career choices and attract more women to pursue nursing careers in specialties like the NICU (Teresa-Morales, 2022).

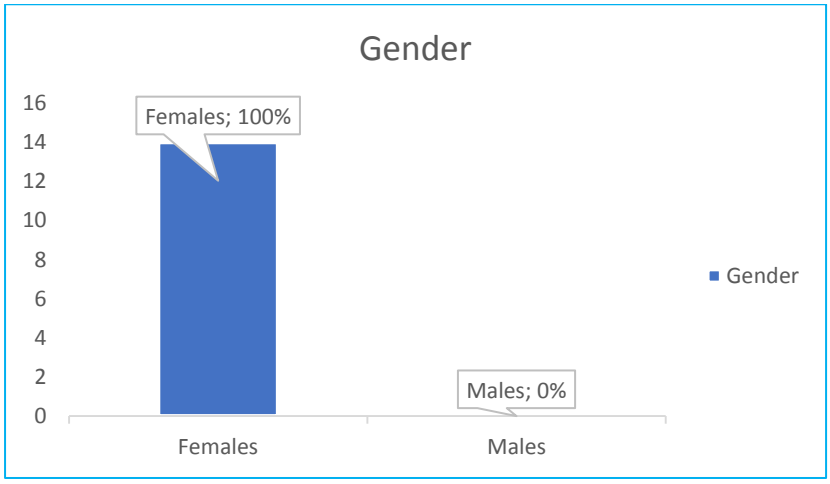


Figure 2B: Gender distribution of nurses

3.2.6 Years of experience of nurses

The distribution of years of experience among nurses in the Neonatal Intensive Care Unit (NICU) provides insights into the level of expertise and tenure within the nursing workforce. According to Figure 2C, only 1 nurse had 6-10 years' experience (n=1). This individual has transitioned beyond the initial learning phase and gained significant proficiency in neonatal care practices. In the category 11-20 years, there were 6 nurses (n-6), comprising of the largest proportion of nurses. Nurses with 11 to 20 years of experience bring a wealth of knowledge and expertise to the NICU. They have encountered a variety of clinical scenarios and have developed advanced skills in providing specialized care to neonates. In the category 21-30 years there were 5

nurses (n=5): This category included five nurses who possessed extensive experience in NICU nursing. These individuals had a deep understanding of neonatal care principles and a wealth of practical experience in managing complex cases. There were 2 nurses (n=2) in the category 31-40 years who represented a rare but invaluable resource within the NICU. They brought decades of experience and wisdom to their practice, serving as mentors and role models for younger nurses.

The nurse participants had varying levels of experience in neonatal care. Numerous research endeavours have indicated that work experience is a significant factor affecting clinical proficiency (Manoochehri, 2015).

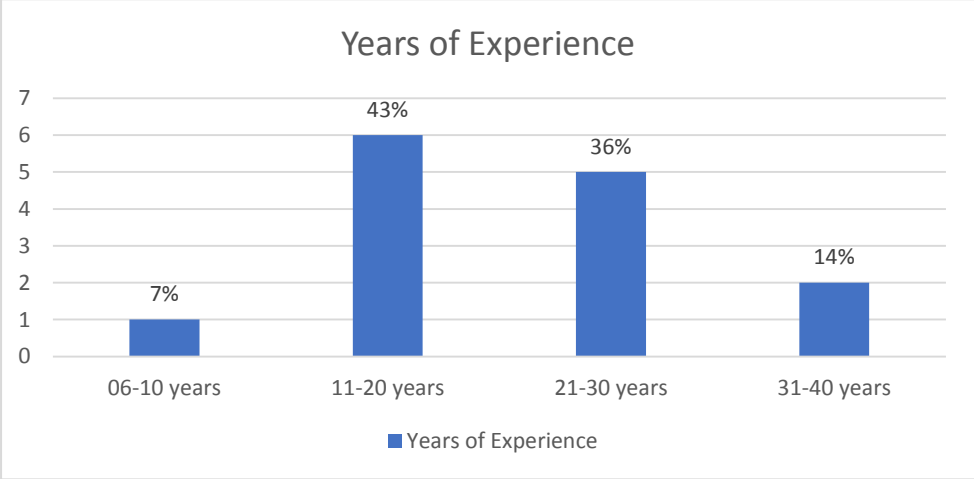


Figure 2C: Years of experience of nurses

3.2.7 Professional qualifications of nurses

The professional qualifications of nurses working in the Neonatal Intensive Care Unit (NICU) play a crucial role in the quality of care provided to infants and their families. In this study, the breakdown of nurses' qualifications provides valuable insight into the expertise and specialization within the nursing staff. Among the nurses working in the NICU, there were 3 registered nurses without specialization, 5 registered nurses with neonatology specialization, 2 registered nurses with critical nursing care specialization, and 4 registered nurses with child nursing specialization.

Understanding the professional qualifications of NICU nurses allows for a more nuanced analysis of the factors influencing patient outcomes and satisfaction. It also enables healthcare organizations to assess staffing needs, identify areas for professional development, and tailor training programs to enhance the skills and competencies of nursing staff working in neonatal care settings.

Proficiency in specialized knowledge and skills is crucial to guaranteeing safe care for new-borns. Skilled nursing personnel in the neonatal intensive care unit (NICU) play a pivotal role in determining the survival and health outcomes of ill and premature infants (Maree, 2020).

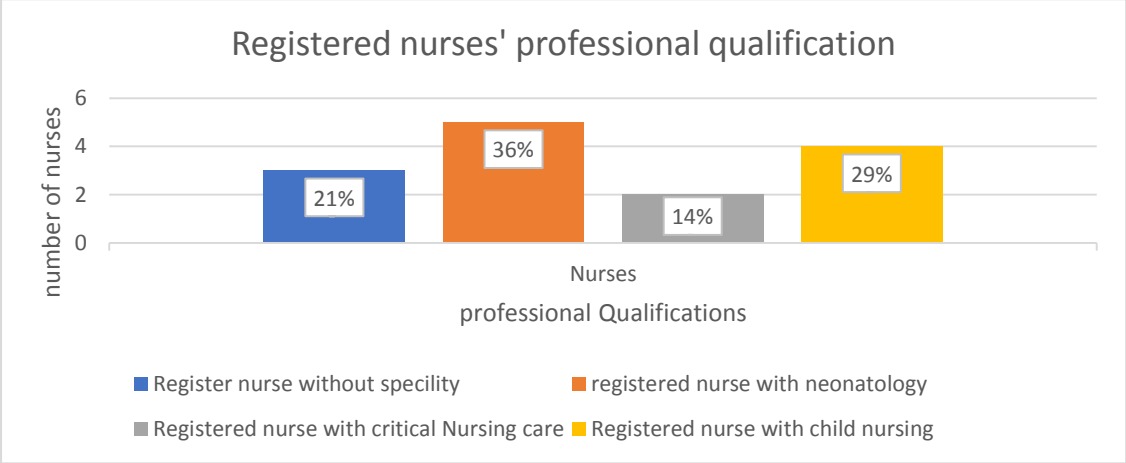


Figure 2D: Professional qualifications of nurses

The demographic information provided is based on the participants who agreed to take part in the study. While efforts were made to ensure diversity and inclusivity in participant selection, the findings and conclusions drawn from the study are specific to this sample and may not be fully generalizable to the entire population.

3.3. FINDINGS AND LITERATURE CONTROL

The researcher started the interview by asking about the well-being of the child to allow the parent to relax and become at ease. The researcher then explained the purpose of the interview and what the participants could expect.

The study was guided by an objective that aimed to explore and describe the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a NICU because of the COVID-19 pandemic. Questions were asked, followed by probing questions to obtain in-depth information. The questions that were asked during the interview were as follows:

Research question: What are the challenges faced by parents and nurses to facilitate parent-infant bonding and attachment in a NICU as a consequence of the COVID-19 pandemic?

Probing questions that followed included the following:

- *Tell me, what do you think are the challenges that hinder/prevent bonding or attachment in the NICU as a result of the COVID-19 pandemic?*
- *Tell me, what do you think can be used/done to facilitate bonding and attachment in the NICU during the COVID-19 Pandemic?*
- *Do you think it is important for parents not to be separated from their baby in the NICU? Yes or no and why do you say so?*
- *Do you think parents with infants in the NICU were considered when applying COVID-19 rules? Yes/No. Please tell me why you think so.*
- *What do you think are the activities parents can do for their infants to ensure bonding and attachment?*
- *Are parents able to do these activities during their visit to their infants? How did it make you feel?*
- *Tell me how the COVID-19 restrictions made you feel?*

The interviews were audio recorded and transcribed verbatim. The researcher then used Tesch's eight steps of data analysis as described by Creswell and Creswell (2014:198) (view Chapter 2) to describe themes and categories. The themes and categories are shown in the table below- Table 3.1 contains the summary of the findings from the parents' interviews and the NICU nurses' interviews:

Table 3.1: Summary of combined themes and categories for parents and nurses

PARENTS AND NURSES	PARENTS	NURSESs
THEMES	**CATEGORIES**	**CATEGORIES**
1 Parent-infant bonding and attachment in NICU	1.1. Importance of bonding.	
	1.2 Parents conceptualisation of bonding	
		1.3 Benefit of parent-infant bonding and attachment
2. Factors facilitating parent-infant bonding and attachment	2.1 Compassionate nursing support fosters positive experiences of care	2.1 Compassionate nursing support fosters positive experiences of care
	2.2 Sensory contact with the infant	
	2.3 Parents' understanding of COVID-19 situation	
		2.4 Nurses understanding of COVID-19 situation
3. Challenges related to COVID-19 pandemic	3.1Challenges related to COVID-19 testing and precautionary measures	3.1 Challenges related to COVID-19 testing and precautionary measures
	3.2 COVID-19 infection and quarantine	3.2 COVID-19 infection and quarantine
	3.3Challenges related to lodging	3.3 Challenges related to lodging
	3.4 Lack of opportunities for father-infant bonding	3.4 Lack of opportunities for father-infant bonding
4. Consequences of challenges to facilitate bonding and attachment	4.1 Consequences for the infant	4.1 Consequences for the infant
	4.2 Consequences for parents	4.2 Consequences for parents

The next section will discuss the findings according to themes and categories.

3.4 DISCUSSION OF FINDINGS

The challenges faced by nurses and parents in facilitating parent-infant bonding and attachment in the neonatal ICU (NICU) during the COVID-19 pandemic have profound implications for the well-being of both infants and their families. Both parents' and nurses 's themes were similar, but categories are different in some themes, similar categories will therefore be integrated and discussed together while different categories discussed individually. The codes used in the direct quotes for neonatal nurse participants are NP and for parent participants are PP.

The following key findings emerged from this study:

3.4.1 Theme 1: Parent-infant bonding and attachment in NICU

Attachment and bonding have been discussed in Chapter 1 as infant-parent attachment is a powerful predictor of a child's later social and emotional outcome, as a normally developing child will develop an attachment relationship with a caregiver who provides regular physical and/or emotional care, regardless of the quality of that care. If an infant experience her or his parents as a source of warmth and comfort, she or he is more likely to hold a positive self-image and expect positive reactions from others later in life (Benoit, 2004). Bonding is the intense attachment that develops between parents and their baby. It makes parents want to shower their baby with love and affection and to protect and care for their little one (Ben-joseph, 2018). As attachment and bonding are closely related, they will be used in combination to describe a good parent-infant relationship.

Table 3.2: Theme 1: Parent-infant bonding and attachment in NICU

PARENTS AND NURSES	PARENTS	NURSES
THEMES	CATEGORIES	CATEGORIES
1 Parent-infant bonding and attachment in NICU	1.1. Importance of bonding.	
	1.2 Lack of opportunities for father-infant bonding	
		1.3 Benefit of parent-infant bonding and attachment

3.4.1.1 Category 1.1: Importance of bonding

Bonding, particularly between parents or caregivers and infants, is of paramount importance for several reasons and to establish effective communication. Bonding forms the foundation for emotional attachment between parents and their infants. It creates a deep and lasting connection built on love, trust, and care. Infants who experience strong bonding tend to develop a secure attachment. This secure attachment is associated with positive psychological development, including better self-esteem, emotional regulation, and mental health outcomes and resilience later in life. Physical contact, such as skin-to-skin contact or cuddling, can have positive effects on an infant's physical growth and cognitive development. It can promote

healthy weight gain, improved brain development, and better sensory processing (Iuele, 2018).

A strong bond with caregivers provides infants with a sense of security and safety. This security is vital for their overall well-being and confidence. Bonding helps reduce stress for both the infant and the caregiver. Physical touch, soothing words, and a loving presence can calm a distressed baby and alleviate parental stress. Early experiences of bonding can influence an individual's ability to form healthy relationships throughout their life. A secure attachment to caregivers can serve as a model for future relationships. They have a secure base from which to explore the world and seek comfort when needed (Iuele, 2018).

It promotes successful breastfeeding, which offers optimal nutrition for infants and fosters a strong emotional connection. When parents or caregivers bond effectively with their infants, they tend to feel more confident in their parenting abilities. This confidence can positively impact the parent-infant relationship and the child's development. The effects of early bonding can extend into adulthood. A loving and secure early attachment can contribute to better mental health, healthier relationships, and overall well-being in adulthood (Iuele, 2018)

The following quote indicates the importance of bonding:

> *"That is the first thing first because the baby depends on the mother, so it is very important for the mother to bond with the baby" (PP07)*

> *"If you don't bond with the baby the baby will not get used to you. Like now when I go to work, he stays in the house, and he bonds more with the one he is with. So, when you are with the baby full time you are able to see what you child wants and what makes them happy and not happy if they are sick." (PP08)*

> "*I believe it is crucial not to be separated from my baby in the NICU. Bonding and attachment play a significant role in establishing a strong emotional connection between a parent and their infant. Being present and involved from the early stages of their life helps to build trust, promote emotional development, and create a foundation for a healthy parent-child relationship." (PP11)*

Participants acknowledged that mothers may face stress and depression during pregnancy and childbirth. Bonding with the baby can serve as a source of emotional support and help mothers cope with these challenges. First-time mothers often experience a steep learning curve in understanding their infant's needs and preferences. Bonding becomes crucial in this context, as it helps build a strong parent-infant relationship and promotes mutual understanding. They emphasize the dependence of the baby on the mother.

Participants highlighted the idea that bonding is a two-way process. It allows parents to understand their child's needs, preferences, and emotional cues, contributing to effective parenting and a happy, healthy baby and emphasizing that it's crucial from the very beginning.

Overall participants highlighted that bonding is not only a source of emotional support for parents but also a fundamental aspect of an infant's development. Bonding is not only comforting but also essential for an infant's development and well-being (Dumpa, 2019).

3.4.1.2 Category 1.2: Parents' conceptualization of bonding

Parents' conceptualization of bonding with their infants can vary widely based on their experiences, cultural backgrounds, and personal beliefs. Some cultures emphasize specific rituals or practices as essential for bonding, while others prioritize extended family involvement. Many parents view bonding as the development of a deep emotional connection with their infant. This emotional connection involves feelings of love, attachment, and a strong desire to care for and protect the baby (Iuele.2018**)**

> The following quote indicates parents' conceptualization of bonding:
>
> *"Bonding is when you put your baby here [showing the chest] because is how you bond with your premature baby, you cannot be able to hold the baby." (PP01)*
>
> *"Getting close emotionally, physically and mentally with with the, with the person that you are bonding with. In our case, we are talking about the baby." (PP04)*

"But to be honest, when you give birth, you don't want to be … unless if maybe you've signed or maybe you are giving your child away. But when you want to be close to your baby, that's when the protective instinct in … in the mother starts. You don't want to be away; you want to see your baby every single minute." (PP05)

"Bonding, for me, is the deep emotional connection and attachment that forms between a parent and their child. It involves feeling a strong sense of love, care, and responsibility towards the infant, and it lays the groundwork" (PP11)

The participants emphasized the importance of physical proximity and skin-to-skin contact when bonding with a premature baby and placing the baby on the chest (known as kangaroo care) is seen to establish and strengthen the bond.

Participants highlighted that bonding involves getting emotionally, physically, and mentally close to the baby. They also touched on the protective instinct that often kicks in when a mother gives birth and the desire to be close to the baby and ensure their well-being, which becomes a fundamental part of bonding. Mothers wanted to see and be with their babies as much as possible.

(Lisle, 2022) indicate that for some parents, bonding is closely associated with physical contact, such as holding, cuddling, and skin-to-skin contact. Physical touch is seen to express love and affection and to provide comfort to the infant. Bonding is often seen as a means of communication between parents and infants. Parents strive to understand their baby's cues, needs, and preferences, and they may believe that effective bonding enhances this communication. Bonding is frequently linked to the development of trust and security in the parent-infant relationship

(Lisle, 2022) further elaborate that, parents want their infants to feel safe, knowing that their needs will be met, and they view bonding to establish this sense of security. Some parents conceptualize bonding as a sense of responsibility and a commitment to providing the best care for their child. Bonding motivates parents to be attentive caregivers and to meet their baby's physical and emotional needs. Parents may also consider attachment styles when thinking about bonding. They may aim to develop a secure attachment, characterized by trust and a sense of security, or they may be mindful of avoiding anxious or avoidant attachment patterns

3.4.1.3 Category 1.3 Benefits of parent-infant bonding and attachment

Parent-infant bonding and attachment are crucial for a child's emotional, social, and cognitive development. These processes contribute to a child's overall well-being and have long-lasting effects. Secure attachment provides infants with a sense of emotional security. When they know their caregiver is responsive and reliable, they are more likely to feel safe and develop a positive sense of self (Flacking, 2021).

The following quote indicates benefits of parent-infant bonding and attachment:

> *"I think personally, especially in the issue of bonding because it's so key to the baby's development psychologically and all" (NP01)*

> *"Is very very important especially with babies We are encouraging attachment and bonding and it is very important because we want, as I said we are a baby friendly hospital, it was very important, EMB to us is a crucial and a very important substance or what for prevention of infection, promotion of bonding for mother and child" (NP06)*

> *"Because most of our mothers struggle with their milk, so the more the bond with their babies the more production becomes good and easier" (NP07)*

> *"I believe it is incredibly important not to separate parents from their babies whenever possible. Parent-infant bonding and attachment are crucial for the well-being and development of the baby, especially in the delicate environment of the NICU. The presence of parents provides emotional support, comfort, and reassurance to both the infant and themselves. When parents are actively involved in the care of their babies, they can form a strong bond that promotes better outcomes for the infant. This bonding helps create a sense of security, promotes healthy attachment, and fosters a nurturing environment even within the hospital setting." (NP13)*

The nurses in this discussion highlighted the critical importance of parent-infant bonding and attachment in the context of neonatal care, and the multifaceted advantages of keeping parents and babies together whenever possible. Their insights emphasized the physical and physiological connection that exists between a mother and her baby, starting from the time of conception. The separation at birth is seen as

a significant transition, and the initial contact between the mother and baby is considered crucial for maintaining the bond.

The nurses also emphasized the psychological development of the baby, acknowledging that bonding plays a vital role in this process. They recognize that separating the baby from the mother can have lasting effects on the child's psychological well-being. They highlighted the importance of allowing parents to see and hold their new-borns. This not only helps parents better understand the condition of their child but also reduces stress levels for both the parents and the baby and creates a sense of relief and reassurance.

(Winstona, 2016) report that attachment experiences during infancy can influence the development of the brain. Positive interactions with caregivers stimulate the growth of neural connections, which support emotional regulation and cognitive development. Children who form secure attachments tend to develop better social skills. They learn to trust others, communicate effectively, and form healthy relationships throughout their lives. Attachment helps infants learn to regulate their emotions. When caregivers respond to a child's needs promptly and sensitively, the child learns how to manage their own emotions. Bonding and attachment often lead to more confident and responsive parenting. When parents form strong connections with their infants, they are more likely to engage in nurturing behaviours

According to (Rollè, 2020) the benefits of parent-infant bonding and attachment, especially during challenging times, serve as a motivating factor for parents. Educating parents on the long-term positive effects of their involvement and attachment with their infants encourages them to overcome COVID-19-related challenges and prioritize bonding.

3.4.2 Theme 2: Factors facilitating parent-infant bonding and attachment

Infant-parent attachment is a powerful predictor of a child’s later social and emotional outcome, a normally developing child will develop an attachment relationship with a caregiver who provides regular physical and/or emotional care, regardless of the quality of that care, which is usually a strong and unilateral relationship. If an infant experience her or his parents as a source of warmth and comfort, she or he is more likely to hold a positive self-image and expect positive reactions from others later in

life (Benoit, 2004). Bonding is a relationship that develops between parents and their baby as a bilateral relationship. It makes parents want to shower their baby with love and affection and to protect and care for their little one (Ben-joseph, 2018). Parent-infant bonding encompasses the emotional, behavioural, cognitive, and neurobiological connection between a parent and their child (Kim, 2020).

Table 3.3 Theme 2: Factors facilitating parent-infant bonding and attachment

PARENTS AND NURSES	PARENTS	NURSES
THEMES	**CATEGORIES**	**CATEGORIES**
2. Factors facilitating parent-infant bonding and attachment	2.1 Compassionate nursing support fosters positive experiences of care	2.1 Compassionate nursing support fosters positive experiences of care
	2.2 Sensory contact with the infant	
	2.3 Parents' understanding of COVID-19 situation	
		2.4 Nurses understanding of COVID-19 situation

3.4.2.1 Category 2.1: Compassionate nursing support fosters positive experience of care

Compassionate nursing support refers to the provision of care by nurses that is characterized by empathy, kindness, and a genuine concern for the well-being of patients. It involves not only addressing the physical needs of patients but also attending to their emotional and psychological needs (Babaei, 2022).

Positive experiences of support refer to instances where individuals receive assistance, encouragement, or care that has a favourable and beneficial impact on their well-being, emotions, or circumstances. These experiences often result in feelings of gratitude, comfort, and overall positive outcomes. Such support can come from various sources, including friends, family, colleagues, healthcare providers, or community organizations. Positive support experiences can encompass emotional, practical, and social aspects of assistance and can greatly contribute to an individual's sense of belonging, resilience, and overall life satisfaction (Woźniak-Prus, 2023).

The following quote indicates compassionate nursing support fosters a positive experience of care:

"I think he spent only four days in the NICU. The NICU nurses are amazing. They don't pressurize you. I think it's A. Is it A?" (PP02)

"Even though the sisters in the ward, they were so supportive all the time, like encouraging you that it all will pass, it all pass and you be discharged. You'll see your baby, we were supported all the time Yeah, we've got good support from all the caregivers from the nursery to the ward" (PP09)

Over and above, the COVID-19 restrictions in the neonatal ICU made me feel a deep sense of compassion for the families and a determination to provide the best care under the circumstances. It was a challenging time, but the resilience and dedication of the healthcare team and the strength shown by the parents and infants helped us navigate through this difficult period together." (NP13)

Yeah, but there was this other doctor. And then, yeah, I think I think she did try to help me by sending me the WhatsApp update with my baby because I kept talking to her, asking how's my baby doing, then she kept on sending me pictures. Then that's when I realized, you know, what? My baby, she's not alone." (PP03)

During interviews, participants acknowledged the exceptional care provided by NICU nurses and their non-pressurizing approach and reflected gratitude for their dedication and expertise in caring for their infants. In addition to addressing physical health concerns, they also acknowledged the emotional and spiritual aspects of care, which can be crucial during difficult periods. They highlighted the importance of supportive nursing staff. It demonstrated how encouragement and reassurance made a significant difference in the emotional well-being of parents.

Nurses reported that communicating updates about the infant's condition, progress, and care plans to parents became increasingly difficult due to limited face-to-face interactions. Virtual communication tools were often insufficient to convey the nuanced information and emotional support that parents required. During the interviews, participants mentioned some forms of support and communication they had. The parent highlights the significant impact of a doctor's support through digital communication. The doctor's willingness to share updates and pictures of the baby

through WhatsApp had a profound effect. It helped the parent feel connected to their baby and provided reassurance during a challenging time. This demonstrated how technology can bridge the physical gap between parents and their hospitalized infants, promoting emotional well-being.

They also emphasized the importance of emotional support from fellow parents in a similar situation. Joining a support group allowed the parent to connect with others who could relate to their experiences and challenges highlighting the value of peer support in providing emotional strength during difficult times.

(Babaei, 2022) indicated that compassion forms the fundamental heart and soul of nursing care. The warm and empathetic efforts of nurses give rise to numerous caring actions that are regarded as the foundation of providing care with gentleness and empathy. Compassionate care involves a dynamic process where nurses engage in interactive communication with patients, seeking to empathize with their perspectives and understand their circumstances. Nurses then make every effort to address and alleviate these concerns.

3.4.2.2 Category: 2.2 Sensory contact with the infant

Sensory contact with an infant refers to the intentional and meaningful interaction between a caregiver or adult and a baby that involves the stimulation of the infant's senses. This contact can encompass various sensory modalities, including touch, sight, sound, taste, and smell, and it plays a crucial role in promoting the baby's physical, emotional, and cognitive development (Lisle, 2022).

The following quote indicated sensory contact with the infant:

> *"Sometimes they will allow me to take care, to maybe at least put her like a kangaroo, my baby" (PP03)*

> *"It is very important because for me the first two weeks that I was seeing my baby, the kangaroo thing it really helped a lot So you wouldn't feel" (PP06)*

During the interviews, participants highlighted the significance of Kangaroo care in the context of caregiving and bonding between parents and their new-borns. Kangaroo care, often associated with premature or low birth weight infants, involves skin-to-skin contact between a parent (usually the mother) and the baby. Parents

emphasized the importance of holding their babies and spending uninterrupted time with them.

According to (Flacking, 2021) this physical closeness is seen as vital for establishing a bond and nurturing the child as it provides an opportunity for parents to hold, feed, change, and interact with their babies, which is crucial for building an emotional connection. This bonding experience can be particularly important in cases where there might be restrictions on parental involvement. It can alleviate feelings of separation or detachment that may arise in certain healthcare settings and reduce stress or anxiety experienced by parents. Being able to hold and bond with their baby in this way can ease some of the concerns or uncertainties that new parents often experience.

(Yoshida, 2021) explain that when a caregiver holds and embraces an infant, the physical touch creates a feeling of security for both the caregiver and the baby. This sense of safety triggers the activation of the parasympathetic nervous system, which is responsible for promoting relaxation and reducing stress in both the caregiver and the infant. hormonal and neuroendocrine factors, particularly oxytocin, might contribute to changes in sensory perception during this bonding experience. Oxytocin is a hormone associated with social bonding and attachment, and it may play a role in enhancing the sensory perception and emotional connection between the caregiver and the infant during moments of physical closeness.

3.4.2.3 Category 2.3: Parents' understanding of the COVID-19 situation

Parents' understanding of the COVID-19 situation refers to the level of knowledge, awareness, and comprehension that parents have regarding the COVID-19 pandemic. It encompasses their understanding of the virus, its transmission, prevention measures, the impact of the pandemic on public health, changes in daily life and routines, and the specific implications of COVID-19 for children and families. This understanding can vary widely among parents and may be influenced by factors such as access to information, education, cultural beliefs, and personal experiences with the pandemic. It plays a crucial role in parents' decision-making processes and actions to protect their children and families during the ongoing health crisis (Liu, 2021).

The following quote indicated parents' understanding of COVID-19 situation:

> *"So being separated makes sense because of the pandemic. We get that completely. I understand that." (PPO2)*

> *"'I think at that time it was out of anyone's hands because it was a new virus, and we were just all trying to be cautious, and we all know how sensitive premature babies were. So, I think for me in hindsight, it was sort of understandable that at the end of the day, it's for the good of my baby's health because I wouldn't want a premature baby catching COVID because I was going in and out of the hospital. So, I think there wasn't really anything that anyone could do at that time. I feel like you did the best that you could to salvage the situation. So yeah …" (PP06)*

The above reflects the perspectives and understanding of individuals regarding the impact of the COVID-19 pandemic on their lives, particularly in the context of separation from infant, adherence to rules, and the challenges it posed. They expressed an understanding and acceptance of the need for pandemic-related measures, such as social distancing and separation from loved ones. They furthermore acknowledged that the pandemic was a situation beyond their control and that following guidelines was necessary to protect public health. There is an acknowledgement of the unpredictability of the virus, which caught people off guard.

These recognitions corresponded with the characteristics of COVID-19 such as the novelty and rapid spread leading to various uncertainties and necessary precautions, the importance of protecting vulnerable individuals (in this case, premature babies) and the necessity of the measures taken during the early stages of the pandemic (Cena, 2021).

There was no study that has been done that found that parents understood the situation at the time, while here in this study parents mentioned that they had no choice, but they believed it was done to save their infants.

3.4.2.4 Category 2.4: Nurses' understanding of COVID-19 situation

Nurses provided direct patient care and consequently faced direct exposure to contagious pathogens. Throughout the pandemic, numerous nurses working on the frontlines have contracted the virus or tragically succumbed to it while courageously

tending to COVID-19 patients, despite the peril to their well-being. In the early stages of the COVID-19 outbreak, healthcare workers contracted the virus due to insufficient understanding of preventive and control measures (Akkuş, 2020).

The following quote indicates nurses' understanding of the COVID-19 situation:

> *"I understand the importance of parental presence and bonding with their babies. However, during the COVID-19 pandemic, we faced numerous challenges and restrictions to ensure the safety and well-being of both parents and infants" (NP13)*

> *"It made us feel somehow but there is nothing we could do because they were ruled, and we won't break those rules that they are not supposed to come" (NP05)*

> *"Remember: COVID when it came, it came like a blow to everybody, there was no time to make proper rules so …uh … there was no time" (NP06)*

> *"First, I think the parents were at home and they are in contact with lots of people, so we could not risk the fact that they come and roam around like they are used to because you know our babies their immune system is very weak, so I think this is one of the reasons because they are in contact with lots of people outside, we could not have let them room-in" (NP07)*

> *"If things were like before, now that this was a deadly virus, we could have taken the part of the mother, maybe sometimes you could have Kangaroo the baby, but because of the nature of the virus, even that, we could not even do that" (NP11)*

Nurses shed light on the challenges and dilemmas faced by healthcare providers and the institutions regarding parental presence and bonding with infants during the COVID-19 pandemic. They acknowledged the importance of parental presence and bonding with babies, which is a critical aspect of infant care, but they faced significant challenges and restrictions aimed at ensuring the safety and well-being of both parents and infants.

Healthcare providers and institutions were bound by rules and guidelines set by health authorities and government regulations. These rules were implemented to minimize the risk of COVID-19 transmission within healthcare facilities.

Participants underscored the sudden and unexpected nature of the COVID-19 pandemic. They pointed out that healthcare institutions had to adapt quickly to a novel and rapidly spreading virus, which might have limited their ability to establish comprehensive guidelines and procedures and highlighted concerns about parents potentially exposing infants to the virus. Infants, especially new-borns who have vulnerable immune systems, Healthcare providers were cautious about parents who might have been in contact with a high number of people outside the hospital and this concern for the infants' health led to restrictions on parental visitation.

(Akkuş, 2020) indicate that throughout the pandemic, nurses have grappled with heightened personal stress stemming from the unpredictability of the situation and increased exposure to infected patients, all while faithfully adhering to the ethical standards of their profession. Furthermore, the social stigma that nurses working in pandemic clinics resulted in restrictions on their freedoms. Another challenge faced by nurses during the COVID-19 outbreak is the insufficiency of safety measures, primarily due to shortages of personnel.

3.4.3 Theme 3: Challenges related to COVID-19 pandemic

Corona virus disease (COVID-19) was defined in Chapter 1 as a viral infection that causes severe acute respiratory syndrome (SARS-COV-2) (Lu, 2020). While challenges refer to difficult or new situations that can be overcome by effort or determination through questioning and defining the problem it poses (Collins, 2020).

The South African health system encountered numerous challenges because of the COVID-19 pandemic. These difficulties encompassed various aspects of hospital management and patient care. Initially, there was a delay in hospital managers' response to establish dedicated COVID-19 areas and wards. Allocating sufficient staff to these areas also proved to be problematic. Initially, there was a tendency for specialities to operate in isolation, which hindered the redeployment of skills and resources toward the COVID-19 response. This situation potentially heightened the

risk of exposure and infection for non-COVID-19 patients in these areas. Furthermore, in the early stages, on-site COVID-19 diagnostic testing was unavailable, necessitating the referral of all samples to the National Institute for Communicable Diseases laboratory in Johannesburg. This led to delays in test results, which, in turn, posed challenges for treatment and patient management. It took several weeks before the hospitals introduced COVID-19 testing on-site. Urgent document preparation, including a COVID-19 screening questionnaire, clinical management guidelines for suspected cases, laboratory testing protocols for potentially infectious samples, and infection prevention and control (IPC) protocols based on risk assessments in various hospital areas, was also necessary. However, due to the rapidly evolving global scientific information, guidelines from the Department of Health and the National Institute for Communicable Diseases, and the dynamic nature of the pandemic, many of these protocols required frequent updates (Thomas, 2020).

These challenges had significant repercussions on the management and outcomes of patients with non-COVID-19-related conditions. The reallocation of staff from various departments to COVID-19 areas may have adversely affected the overall management and outcomes of non-COVID-19 patients. Additionally, a noteworthy number of asymptomatic COVID-19 patients were admitted with other illnesses and were incidentally diagnosed with COVID-19 through routine testing. Coupled with laboratory delays in processing samples, this increased the risk of non-COVID-19 patients contracting the virus during hospitalization.

Moreover, healthcare staff experienced anxiety, panic, and fear during this period. These emotional responses led to some staff members refusing to care for COVID-19 patients or excessively utilizing personal protective equipment, resulting in wastage. Shortages and issues related to the quality and procurement of personal protective equipment were also notable problems. Shortages were exacerbated by misuse and theft from ward areas where they were provided. Certain batches of personal protective equipment, including plastic aprons, coveralls, and shoe covers, were subpar, lacking permeability and tearing easily. Furthermore, mismanagement of funds occurred without proper consultation with relevant stakeholders. Inadequate awareness or carelessness among staff members contributed to the improper

donning of personal protective equipment, disregarding situational requirements, despite ongoing training by infection prevention and control staff. Shortages of hand-sanitizing solution and biocide used for environmental disinfection were additionally reported. Improper infection prevention and control practices resulted in several staff members contracting COVID-19, necessitating their absence from work for varying periods based on the severity of their symptoms (Thomas, 2020).

Table 3.4 Theme 3: Challenges related to the COVID-19 pandemic

PARENTS AND NURSES	PARENTS	NURSES
THEMES	**CATEGORIES**	**CATEGORIES**
3. Challenges related to COVID-19 pandemic	3.1Challenges related to COVID-19 testing and precautionary measures	3.1 Challenges related to COVID-19 testing and precautionary measures
	3.2 COVID-19 infection and quarantine	3.2 COVID-19 infection and quarantine
	3.3Challenges related to lodging	3.3 Challenges related to lodging
	3.4 Lack of opportunities for father-infant bonding	3.4 Lack of opportunities for father-infant bonding

3.4.3.1 Category 3.1: Challenges related to COVID-19 testing and precautionary measures

The ongoing COVID-19 pandemic introduced new challenges to the healthcare system. Parents and infants faced the added stress of COVID-19 testing and the uncertainty it brought. The following quotes indicated challenges related to COVID-19 testing in the hospital for parents.

> *"… if she is transferred from a unit, and we don't know the results then that mother can't come without results." (NP01)*

> *"Or delay of results. Maybe parents took the COVID test and maybe having delay of the outcome…also interrupt the bonding because the neonate cannot bond with the mother." (NP04)*

> *"… but not forgetting that there is that part where the mother needs to bond with their babies and you find that the mother is admitted in postnatal and they suspect that the mother is positive, now the mom can't come, they just running*

tests and that time the test would take time to come back due to the backlog, so ya it was bit difficult …" (NP08)

"*The main challenge, the first challenge that I faced personally is the testing of COVID-19. There was a queue for the results. It took a bit of days, a few days before I saw my child. And remember I was from operation." (PP04)*

"And then after you wait for the results and it…it's the process really. And you don't see, you don't know what's going on with your child." (PP05)

Participants highlighted the challenges in facilitating bonding during the pandemic, such as the inability to facilitate bonding when the mother's COVID-19 status was not yet known, which was even worse if there were delays in COVID-19 test results.

(Cena, 2021) are of the opinion that the COVID-19 pandemic introduced new challenges to the healthcare system. Parents and infants faced the added stress of COVID-19 testing and the uncertainty it brought. Hospital protocols for testing could disrupt the bonding process, causing anxiety and fear among parents.

The challenges related to COVID-19 testing in South Africa have been a critical aspect of the country's response to the pandemic. Several factors contributed to these challenges, including resource limitations, a high disease burden, and evolving variants of the virus. These led to delays in testing and a backlog of samples awaiting analysis (Lalla-Edward,2022). As indicated in this study, these in turn led to longer separation and delayed opportunities for bonding in the NICU.

3.4.3.2 Category 3.2: COVID-19 infection and quarantine

This category highlights the challenges faced by parents and infants when one or both tested positive for COVID-19, leading to isolation and quarantine. These situations disrupted the normal parent-infant interaction, potentially affecting attachment and emotional development (Jackson, 2021).

The following quote indicated COVID-19 infection and quarantine.

"Even me was infected with COVID-19 and they had to take me to Tshwane hospital, so to keep me there for quarantine. So that's when the difficulties came along. When I was away from my baby, I had to stay there for around

7 days. I think that was seven days. I was quarantined for seven days. And then after seven days, that's when I was able to see my baby because I also had an infection while I was in the hospital. I got infected there. So that's some of the challenges, I was there and then get infected at the hospital, then I couldn't see my baby for 7 to 8 days" (PP03)

"But if you are positive, they separate you. And then you must isolate maybe for 10 days before you can see the baby. That was my because, you know, they must make a place where you can maybe see the baby, even on the screen, even if you have covered it. Because when I had COVID it was I didn't have severe symptoms, so they said to me I wouldn't be able to see the baby until I produced the COVID certificate to show that I didn't have or to show that I have" (PP05)

"Personally, the challenges that I had was the one if the mom is positive there was no bonding at all" (NP01)

"And the other thing is that, if the mother is positive, that time I was talking about if the baby is positive it's taken into isolation and is only nursed by the nurses, and now if the mother is positive the mother is never allowed in to come and see the baby and that created lack of bonding between the mother and the baby" (NP06)

Participants pointed out that quarantine and limited physical presence affected bonding and the hospital did not adequately consider the needs of new mothers and babies with the COVID-19 restrictions. Bonding could not be facilitated when the mother was COVID-19 positive or if a transferred mother did not know her test results as they could not see their babies. Both nurses and parents expressed heightened emotional distress due to the separation caused by the pandemic. Nurses felt the weight of being intermediaries between infants and parents, while parents experienced feelings of helplessness, anxiety and guilt for not being able to provide constant care and comfort to their infants.

According to the National Department of Health, Republic of South Africa. (2020), South Africa's response to the COVID-19 pandemic involved a multifaceted approach that encompassed testing, isolation and quarantine measures. While the nation faced

its share of challenges, it demonstrated resilience and adaptability in the face of the evolving pandemic. Effective testing, isolation, and quarantine protocols remained crucial tools in South Africa's ongoing efforts to combat the spread of COVID-19 and protect public health. This study though demonstrated a negative side thereof which was at the cost of bonding and attachment between parents and their babies hospitalized in the NICU.

3.4.3.3 Category 3.3: Challenges related to lodging.

Under normal circumstances, the mother could stay in the lodging facility of the hospital if she did not have accommodation close to the hospital so that she could be close to her baby for feeding and being involved in caretaking activities.

To prevent the spread of COVID-19, hospitals implemented strict infection control protocols. This included limiting the number of individuals in hospital rooms and restricting visitation rights for neonatal mothers (Goga, 2021).

The following quotes indicated challenges related to lodging

> *"Well one of the challenges was we could not allow mothers to come to lodge as we used to do before COVID-19, so during COVID-19 they were not allowed to lodge which was one of the challenges, because now the mothers and babies were separated which was not good for the recovery of the baby." (NP02)*

> *"I understand they had a place where they say you guys can lodge to sleep but only certain mothers could sleep there, myself before I could sleep there, I had to take a COVID test just because I come out then you wait 14 days or how many…7 days then after that then they say your child is discharged." (PP07)*

Participants mentioned the challenge of not allowing mothers to lodge in the hospital due to the closure of the lodger facility, which resulted in further separation and lack of interaction between the mother and her baby.

Goga (2021) reported that lodging in hospitals for neonatal mothers during the COVID-19 pandemic presented several challenges, as healthcare facilities had a responsibility to balance the safety of patients and healthcare workers with the need

for maternal and neonatal care. Hospitals often had limited space for accommodating neonatal mothers, particularly in regions with high COVID-19 caseloads. This limitation led to inadequate lodging options, making it difficult for mothers to stay close to their babies, which could result in feelings of isolation and anxiety. COVID-19-related restrictions limited the involvement of family members and support networks in the care of neonatal mothers and their infants, potentially impacting negatively on emotional well-being and caregiving responsibilities. This was also the finding of this study.

3.4.3.4 Category 3.4: Lack of opportunities for father-infant bonding

Father-infant bonding is a dynamic process that evolves as the child grows and matures. It is important for fathers to be actively engaged and emotionally available to their infants to establish a secure and loving attachment. This bonding not only benefits the child but also contributes to the father's sense of fulfilment and connection within the family (Adama, 2022)

The following quotes indicate the lack of opportunity for father-infant bonding

> *"… the mother was the only person allowed in and the father was not allowed inside and that created a space between the mother and the baby" (NP06)*

> *"The thing is we did not allow fathers to come and see their babies, so for me they were denied a chance to bond with their babies while they were still here [in the NICU]." (NP12)*

> "*The main challenge was the strict level 5 lockdown restrictions that prevented fathers from being allowed in the NICU" (PP11)*

> *"They weren't thinking about us and especially because the fathers of the children weren't even allowed. So, I was the first-time parent, my partner at the time was a first-time parent and the first time he saw his child was a month after the child was born" (PP02)*

The participants mentioned the strict lockdown restrictions preventing fathers from being present in the NICU, hindering bonding and attachment. They further emphasized the importance of not being separated from the baby in the NICU and the role of bonding in emotional development and parent-child relationships.

Adama (2022) indicates that active involvement in caregiving tasks, such as feeding, diaper changing, and soothing, allows fathers to build a strong bond with their infants. These provide opportunities for physical closeness and interaction when fathers engage in play and interactive activities that stimulate the infant's cognitive and social development. Playful interactions help foster a sense of joy and attachment. Fathers who respond promptly and sensitively to their child's cries or signals for comfort and attention create a sense of security and trust. Fathers can support the mother in her caregiving role, and by working together as a team, parents can create a nurturing environment that benefits the child's development. Building a strong bond with an infant is a long-term commitment. Fathers who remain consistently involved in their child's life throughout their development continue to nurture the bond over time.

Flacking (2012) discuss the critical aspect of the involvement of fathers in parent-infant bonding and their essential role in the healthy emotional and psychological development of the child. Bonding with the father is an important part of a child's social and emotional growth, and it contributes to the child's overall well-being. Unfortunately, many healthcare settings do not provide adequate opportunities for fathers to bond with their infants during hospital stays. This lack of involvement can lead to feelings of exclusion and frustration among fathers, potentially affecting the development of the parent-infant relationship. This was also the case in this study with fathers being denied access.

3.4.4. Theme 4: Consequences of challenges to facilitate bonding and attachment

This refers to the potential negative outcomes or impacts that may arise when obstacles hinder the development of a strong emotional connection between parents and their children. These challenges can encompass factors such as medical conditions, separation, stress, or limited sensory interactions and may result in difficulties forming a secure and nurturing attachment bond, which is crucial for a child's emotional and psychological development (Benoit, 2004)

Table 3.5 Theme 4: Consequences of challenges to facilitate bonding and attachment

PARENTS AND NURSES	PARENTS	NURSES
THEMES	**CATEGORIES**	**CATEGORIES**
4. Consequences of challenges to facilitate bonding and attachment	4.1 Consequences for the infant	4.1 Consequences for the infant
	4.2 Consequences for parents	4.2 Consequences for parents

3.4.4.1 Category 4.1: Consequences for the infant

Challenges to facilitating bonding and attachment in the NICU can have significant consequences for the infant. These consequences can impact the child's physical, emotional and developmental well-being (He, 2021). When infants are separated from their parents or primary caregivers due to medical interventions or restrictive policies, there may be a delay in the establishment of emotional bonding.

The following quotes indicate consequences for the infant:

> *"It is very important, as a mother and child friendly hospital we believe that the mother should never be separated from her child unless she is very ill, but because of COVID-19 they were separated which I don't believe is good for the baby from the first place." (NP02)*

> *"It delays the growth of the baby and also for the feeding, most of the babies ended up being given formula and we know that formula is not good for everybody." (NP09)*

> *"Yes, it is important, and it has been proven that babies who don't have a bond with their parents have problems growing up especially psychologically" (NP14)*

> "*I remember I would go to the hospital for about an hour and a half and apparently that wasn't enough because my baby started losing weight, so I had to stay there for longer for at least more than two hours at the most Just so that he doesn't miss me because when he misses you, then he just loses weight" (PP06)*

"It was difficult like my child know I have to leave, she doesn't take milk by the bottle now they have to tube feed her, which is not nice, and because of that she was losing weight, when it comes to my attachment" (PP07)

Participants shed light on the significant impact of separating mothers from their babies in the NICU during the COVID-19 pandemic. They expressed concerns about the handling of breast milk and the potential risk of COVID-19 transmission through breast milk. Several mentioned the challenges posed by long separations between mothers and their infants and how this disrupted the bonding process and affected the baby's growth, development and feeding. It's noted that some infants required formula feeding due to these challenges. The long-term psychological impact on children who lack a bond with their parents was also acknowledged. Some parents shared their personal experiences of trying to cope with the separation from their infants. They describe the emotional toll it took on them, their infants' reactions, and the efforts they made to stay connected.

Emotional bonding is crucial for a child's sense of security and trust in their caregivers. Infants who do not experience consistent and responsive caregiving may develop attachment insecurity. This can lead to difficulties in forming trusting relationships later in life and impact the child's ability to regulate their emotions (Cena, 2021).

Lack of close physical contact, including skin-to-skin care can lead to developmental delays in preterm infants. Skin-to-skin contact is essential for regulating body temperature, promoting weight gain and supporting healthy brain development. Infants who experience prolonged separation from their parents may face cognitive and behavioral challenges as they grow. This can include difficulties in concentration, emotional regulation, and social interactions. Stress resulting from separation and limited parental involvement can negatively affect an infant's physical health. It can weaken the immune system, making the infant more susceptible to infections and other health issues. The emotional consequences of separation in the NICU may extend into childhood and adolescence. Children who experienced early attachment challenges may be more prone to anxiety, depression and low self-esteem (Kim, 2022).

When parents have limited access to their infants in the NICU, it can be challenging to establish a strong parent-infant interaction, which can affect the development of communication and emotional bonds between the two. Separation can make breastfeeding more difficult to establish. Breast milk provides essential nutrients and immune protection for infants, so any barriers to breastfeeding can have health consequences. Infants who do not experience regular contact with their parents may experience higher stress levels, which can affect their overall well-being and ability to cope with medical procedures (Kim, 2022).

3.4.4.1 Category 4.2: Consequences for parents

Challenges to facilitating bonding and attachment in the NICU can have significant psychological consequences for parents. These challenges often arise due to factors such as separation from their infant, medical complexities, and the stress associated with a NICU environment. The uncertainty and medical complexities associated with the NICU environment can lead to heightened levels of distress and anxiety in parents. Worries about their infant's health and well-being, coupled with the feeling of powerlessness, can be emotionally taxing.

The following quote indicates consequences for parents.

> *"Additionally, the emotional and physical stress experienced by parents in the NICU can affect their ability to establish a strong bond. Seeing their fragile newborns in critical condition, undergoing medical procedures, and facing uncertainty about their health can be overwhelming for parents" (NP13)*

> *"So that was another issue that that I experienced that was, that was traumatizing for me because now you're worried about the child." (PP02)*

> *"Because, you know, when you are away from your baby and your baby, it's still at the tender age, you feel like you like your world it's falling apart. But at least they make the process to be easy" (PP05)*

> *"The COVID-19 restrictions have caused a mix of emotions. On one hand, I understand the need for safety and protecting vulnerable infants in the NICU. On the other hand, the restrictions intensified the feelings of anxiety, isolation, and frustration. It was challenging to cope with the uncertainty and not being able to actively participate in my baby's care." (PP11)*

The participants highlighted the emotional and psychological challenges that parents face when separated from their infants in the NICU and the distress experienced when separated from their infants. They also acknowledged the emotional and physical stress that parents experienced in the NICU.

While parents (PP02, PP03) described the trauma and worry they experienced due to separation from their infants in the NICU. Participants articulated the sense of falling apart when separated from their young and underscored the emotional turmoil and upheaval that can accompany such separation. The participants mentioned post-natal depression being a high risk associated with prolonged separation from one's infant.

The parents had mixed emotions and experiences regarding the COVID-19 restrictions in the NICU - while they understood the need for safety, these restrictions intensified feelings of anxiety, isolation and frustration. The inability to actively participate in their baby's care were particularly challenging.

According to Liu (2021) parents expressed a sense of detachment and a struggle to form a parental identity due to reduced involvement in caregiving tasks. The NICU environment, coupled with pandemic-related stressors, made it challenging for parents to feel as active participants in their infant's care.

Prolonged separation from their new-born, combined with the stress of their infant's medical condition, can increase the risk of depression in parents. Feelings of sadness, hopelessness, and helplessness are common in this situation. Parents may experience feelings of guilt and self-blame for not being able to protect their infant from illness or complications. They may question if they did something wrong during pregnancy or childbirth (Flacking, 2021).

Parents often experience a sense of loss or grief when they cannot establish immediate or typical bonding and attachment with their infant. This grief can be challenging to cope with, as it's linked to unfulfilled expectations of the parenting experience. The chronic stress experienced by parents in the NICU can manifest as physical symptoms such as headaches, digestive problems, sleep disturbances, and fatigue. These physical symptoms can further contribute to their psychological distress. The stress and emotional toll of having a baby in the NICU can strain a

couple's relationship. Disagreements over medical decisions, differences in coping strategies, and the emotional burden can lead to relationship conflicts (Kim, 2022).

In some cases, parents may develop symptoms of post-traumatic stress because of the traumatic experience of having a critically ill or premature infant in the NICU. This can include flashbacks, nightmares, and heightened emotional reactivity. Parents may experience a loss of self-esteem as they grapple with feelings of inadequacy or failure to provide adequate care and bonding for their infant. The demands of the NICU may lead to social isolation, as parents may withdraw from their social circles to focus on their infant's needs. This isolation can further exacerbate feelings of loneliness and despair. Parents may experience persistent worry about their child's long-term health and developmental outcomes, leading to ongoing stress and anxiety even after leaving the NICU (Laccetta, 2023).

3.5 SUMMARY

This chapter illustrated data analysis and a discussion of the findings. The next chapter will discuss the recommendations, limitations, and conclusions of the research.

CHAPTER 4: CONCLUSION, RECOMMENDATIONS AND LIMITATION OF THE STUDY

4.1 INTRODUCTION

In the previous chapter, findings from interviews between the researcher and the parents and the nurses were discussed in detail to explore and describe the challenges faced by them related to parent-infant bonding and attachment in the NICU as a result of the COVID-19 Pandemic. This current chapter will discuss the conclusion, recommendations and limitations of the study based on the results found.

4.2 CONCLUSIONS

This study aimed to explore and describe the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in the neonatal ICU as a result of the COVID-19 pandemic. The aim and question were addressed through a qualitative, descriptive, explorative design, using face-to-face semi-structured interviews and Microsoft Teams™ interviews. The interviews were transcribed and analysed to constraint the following themes:

4.2.1 Theme 1: Parent-infant bonding and attachment in the Neonatal Intensive Care Unit

4.2.1.1 Category 1.1: Importance of bonding

The participants in this discussion recognized and emphasized the significant role that bonding plays in the lives of mothers and infants during pregnancy, childbirth, and the early stages of parenting. They acknowledged that mothers may face stress and depression during these critical periods, and bonding with the baby serves as a valuable source of emotional support, aiding mothers in coping with these challenges. They further highlighted the importance of bonding for first-time mothers who often navigate a steep learning curve in understanding their infant's needs and preferences. Bonding becomes essential in building a strong parent-infant relationship and promoting mutual understanding, contributing to effective parenting and the well-being of both parent and baby. The participants emphasized that bonding is a two-way process, allowing parents to understand their child's needs,

preferences, and emotional cues, which in turn contributes to effective parenting and the happiness and health of the baby. They stressed that early bonding is crucial, helping infants become accustomed to their parents' touch, scent, and presence, thereby fostering a strong emotional connection from the very beginning.

The participants underscored that bonding is not only a source of emotional support for parents but also a fundamental aspect of an infant's development. It facilitates mutual understanding, promotes emotional well-being, and lays the foundation for a healthy and loving parent-infant relationship. Importantly, bonding was highlighted as particularly crucial during times of stress, such as childbirth or hospitalization in the Neonatal Intensive Care Unit (NICU), as it provides both physical and emotional comfort to both parties, helping them navigate these challenging circumstances.

4.2.1.2 Category 1.2: Parents' conceptualisation of bonding

The participants in this discussion provided invaluable insights into how parents conceptualized bonding with their infants in the context of the Neonatal Intensive Care Unit (NICU). They emphasized the paramount importance of physical proximity and skin-to-skin contact or kangaroo care, particularly in the case of premature babies, as a powerful way to establish and strengthen the bond between parent and child. Furthermore, they considered bonding as going beyond mere physical contact. It is a holistic concept that encompasses emotional, physical, and mental closeness to the baby. It is not just about holding the baby but also about forming a deep emotional connection and fostering attachment. The discussions touched upon the powerful protective instinct that often arises when a mother gives birth, leading to a strong desire to be close to the baby and ensure their well-being, which is a fundamental part of bonding.

Participants provided a comprehensive view of bonding as a profound emotional connection between a parent and their child. This connection is a multi-dimensional and deeply meaningful concept characterized by intense feelings of love, care, and responsibility, serving as the foundation upon which the parent-child relationship is built, encompassing physical closeness and emotional attachment. It is a natural and instinctual connection that forms between parents and their babies, playing a pivotal role in the well-being and development of both parties.

4.2.1.3 Category 1.3: Benefits of parent-infant bonding and attachment

The nurses in this discussion have eloquently emphasized the paramount importance of parent-infant bonding and attachment within the context of neonatal care. Their insights underscored the profound physical and physiological connection that exists between a mother and her baby, which begins at the time of conception. The separation that may occur at birth is viewed as a significant transition, and the initial contact between the mother and baby is considered crucial for nurturing and maintaining this bond. The nurses recognized the critical role that bonding plays in the psychological development of the baby and acknowledged that separating the baby from the mother can have enduring effects on the child's psychological well-being. They stressed the importance of allowing parents to see and hold their new-borns, not only to help parents better understand their child's condition but also to reduce stress levels for both parents and the baby, providing a profound sense of relief and reassurance.

Nurses suggested that allowing parents to see their baby benefits not only the parents but also the healthcare providers. Having a visual image of the baby enables medical professionals to offer more personalized support and care, creating a mutually beneficial experience that enhances the bond and contributes to overall well-being. The educational aspect of parent-infant bonding was also highlighted, as being together allows parents to learn about their baby's needs and conditions. This knowledge makes it easier for healthcare providers to educate and support parents in providing care. Additionally, the nurses mentioned that bonding can improve breastfeeding outcomes, as the emotional connection between mother and baby can positively impact milk production, ultimately benefiting the baby's health.

The participants in this discussion also acknowledged the unique challenges posed by the Neonatal Intensive Care Unit (NICU) environment, where parental involvement is crucial for monitoring and supporting the growth of premature babies. The concept of family-centred care, where parents become active partners in their baby's healthcare journey was emphasised, as well as the multifaceted advantages of keeping parents and babies together whenever possible. Their perspectives highlighted the holistic impact of parent-infant bonding on both the emotional and

physical well-being of infants and their families. This approach aligned perfectly with the principles of family-centred care and underscored the importance of fostering a supportive healthcare environment that recognizes the profound significance of these early connections.

4.2.2 Theme 2: Factors facilitating parent-infant bonding and attachment

4.2.2.1 Category 2.1: Compassionate nursing support fosters positive experiences of care

Participants expressed deep appreciation for the care provided by NICU nurses, emphasizing their dedication, expertise, and non-pressurizing approach, the profound emotional impact of supportive nursing staff on parents during their NICU journey, and the importance of holistic support from healthcare institutions, addressing not only physical but also emotional and spiritual aspects of care, particularly in the context of the NICU.

The COVID-19 pandemic presented unique challenges, but healthcare teams demonstrated adaptability and resilience, finding innovative ways to support families despite physical restrictions. Participants emphasized the significant relationships that develop in the NICU, with healthcare professionals offering emotional support and reassurance. However, they also noted challenges in communicating updates due to limited face-to-face interactions, underscoring the need for improved communication strategies in healthcare settings.

Furthermore, insights revealed the importance of fostering meaningful connections and effective communication in critical healthcare environments, the impact of technology, peer support groups, and lodging facilities on their emotional well-being and active involvement in their child's care. Overall, the findings underscored the multifaceted nature of support and its positive impact on parents and their hospitalized babies during challenging times in the NICU.

4.2.2.2 Category 2.2: Sensory contact with the infant

The participants shed light on the profound significance of kangaroo care in the context of caregiving and bonding between parents and their new-borns, particularly in NICUs. Kangaroo care, characterized by skin-to-skin contact between a parent (normally the mother) and the baby, emerged as a crucial practice that facilitates

emotional connection and nurtures the child's well-being. Parents emphasized the importance of holding their babies and spending uninterrupted time with them through kangaroo care. This physical closeness was described as vital for establishing a strong and enduring bond between parents and infants. It was noted that kangaroo care provides a valuable opportunity for parents to actively engage in tasks like feeding, changing diapers, and interacting with their babies, all of which are integral to building an emotional connection.

Kangaroo care was also viewed as particularly important in cases where there might be restrictions on parental involvement due to challenges. Participants mentioned how this practice provided emotional support and comfort to both parents and infants, alleviating feelings of separation or detachment that can arise in such circumstances. It was also suggested that kangaroo care may help reduce the stress or anxiety experienced by parents, allowing them to feel more confident and connected during the early weeks of their baby's life. The physical contact, emotional support, and increased parental involvement that kangaroo care offers were viewed as essential elements in the early stages of an infant's life, particularly when other restrictions or challenges may limit these opportunities.

4.2.2.3 Category 2.3: Parents' understanding of the COVID-19 situation

The participants in this study expressed a nuanced and multifaceted perspective on the COVID-19 pandemic and the associated measures. They demonstrated an understanding and acceptance of the need for pandemic-related measures, including social distancing and separation from loved ones. They recognized that the pandemic was a situation beyond anyone’s control and that following guidelines was necessary to protect public health. They recognised that COVID-19 is a natural phenomenon that humans cannot control, reflecting the frustration and social responses that can arise during a crisis, where blame may be directed at external factors. Participants also acknowledged the significant changes brought about by the pandemic and the importance of these changes for public safety. They expressed a willingness to adapt to new circumstances, recognizing the unpredictability of the virus and the uncertainties it brought. There was a specific mention of the importance of protecting vulnerable individuals, particularly premature babies, highlighting the understanding

that pandemic measures were put in place to safeguard the health of those most at risk.

Overall, these reflected a range of responses and perspectives regarding the COVID-19 pandemic. While there might have been frustration and challenges associated with the pandemic's impact on daily life and separation from loved ones, there was also an overarching recognition of the importance of public health measures and the need to protect vulnerable populations. These perspectives highlighted the complex interplay between individual understanding, societal responses, and the evolving nature of a global health crisis.

4.2.2.4 Category 2.4: Nurses' understanding of the COVID-19 situation

The insights from nurses in this study illuminated the intricate challenges and ethical dilemmas confronted by healthcare providers and institutions in the context of parental presence and bonding with infants during the COVID-19 pandemic. These healthcare professionals recognized the paramount importance of parental presence and bonding in infant care, a fundamental aspect of nurturing and development. However, they also grappled with the significant challenges and restrictions imposed to ensure the safety and well-being of both parents and infants.

Healthcare providers and institutions were bound by rules and guidelines established by health authorities and government regulations, all aimed at mitigating the risk of COVID-19 transmission within healthcare facilities. Importantly, parents themselves understood the necessity of adhering to these rules, acknowledging that breaking them was not a viable option given the exceptional circumstances. Participants underscored the sudden and unexpected nature of the pandemic, which required healthcare institutions to rapidly adapt to a novel and highly contagious virus. This swift response might have limited the ability to establish comprehensive guidelines and procedures, leading to concerns about parents potentially exposing vulnerable infants to the virus. The healthcare providers' cautious approach stemmed from their commitment to safeguarding the health of infants, particularly those with fragile immune systems. Even practices as beneficial as kangaroo care, which involves skin-to-skin contact between parents and premature infants and is crucial for bonding, had to be curtailed during the pandemic due to the virus' highly contagious nature. Safety

precautions to prevent COVID-19 transmission took precedence over some bonding activities.

Overall, this discussion highlighted the complex and often heart-wrenching decisions faced by healthcare providers and institutions during the COVID-19 pandemic. While they fully recognized the importance of parental presence and bonding with infants, their primary obligation was to prioritize the safety and well-being of both parents and these vulnerable infants. The highly contagious and potentially severe nature of the virus compelled strict adherence to rules and guidelines, often resulting in necessary but emotionally challenging restrictions on parental involvement and bonding activities.

4.2.3 Theme 3: Challenges related to the COVID-19 pandemic

4.2.3.1 Category 3.1: Challenges related to COVID-19 testing and precautionary measures

The participants highlighted the daunting challenges encountered in fostering bonding during the COVID-19 pandemic. These challenges included the difficulty in facilitating bonding when mothers were COVID-19 positive and the uncertainty surrounding test results for transferred mothers, often resulting in delays. To address these concerns, participants proposed a series of pragmatic solutions. Firstly, they emphasized the importance of prioritizing neonatal mothers in the COVID-19 testing process, with a particular emphasis on expediting test results. Additionally, participants recommended comprehensive testing protocols, including testing all pregnant women upon admission or before delivery. This approach aimed to ensure uninterrupted bonding between mothers and their new-borns by minimizing the uncertainty surrounding COVID-19 status.

Furthermore, participants suggested the establishment of designated units for COVID-19 positive mothers within healthcare facilities, allowing for safer care while minimizing the risk of transmission. Additionally, the proposal for lodger facilities could provide mothers with a supportive environment, enabling them to stay close to their infants while receiving necessary care. Incorporating these solutions into healthcare protocols could significantly enhance the ability to facilitate bonding between mothers

and new-borns during these challenging times, ultimately promoting the well-being of both mothers and infants amid the pandemic.

4.2.3.2 Category 3.2: COVID-19 infection and quarantine

The participants illuminated the substantial challenges brought about by COVID-19 restrictions, which have significantly impacted the vital process of bonding between mothers and babies. Quarantine measures and limited physical presence have hampered this critical connection, leading to concerns that the hospital did not adequately consider the unique needs of new mothers and infants during the pandemic. Participants proposed the establishment of isolation rooms for COVID-19 positive mothers and their babies, with the aim of promoting bonding while maintaining safety.

Both nurses and parents shared their experiences of heightened emotional distress due to the separation imposed by the pandemic. Nurses found themselves in the challenging role of intermediaries between infants and parents, grappling with the emotional burden of facilitating this critical connection. On the other hand, parents expressed feelings of helplessness, anxiety, and guilt for not being able to provide constant care and comfort to their infants during this challenging period. These findings emphasized the urgent need for healthcare institutions to re-evaluate their policies and strategies in light of the emotional toll exacted by the pandemic on both healthcare providers and parents. The promotion of bonding and emotional well-being must remain a top priority, even in the face of unprecedented challenges, to ensure the optimal development and health of infants and the emotional support of their parents.

4.2.3.3 Category 3.3: Challenges related to lodging

The participants in this study articulated the significant challenge related to the restriction on mothers' lodging in the hospital, compounded by the closure of existing lodger facilities. This limitation posed a formidable obstacle to the crucial early bonding between mothers and their new-borns during the COVID-19 pandemic. To address this challenge and promote maternal-infant bonding, participants put forth constructive suggestions. Rapid testing emerged as a pivotal solution, allowing

mothers to remain in the hospital with their babies if their test results were negative. Moreover, participants emphasized the importance of establishing designated units for COVID-19 positive mothers, ensuring both the safety of the mother and baby, and minimizing the risk of transmission within healthcare facilities.

Additionally, the proposal for lodger facilities resurfaced as a key recommendation, as it enabled mothers to stay in close proximity to their infants while receiving necessary medical care. This, in turn, fostered more extended periods for kangaroo care (skin-to-skin contact) – a critical practice that has been proven to strengthen the maternal-infant bond. Implementing these suggestions could effectively address the challenges presented, facilitating a nurturing environment where mothers could stay with their new-borns and engage in vital bonding activities. Such measures were pivotal in ensuring the emotional well-being and development of both mothers and infants during these challenging times.

4.2.3.4 Category 3.4: Lack of opportunities for father-infant bonding

The participants shed light on the significant challenges posed by strict lockdown restrictions, particularly in preventing fathers from being present in the NICU and hindering the crucial process of bonding and attachment between fathers and their new-borns. Their valuable insights led to practical suggestions, including the use of virtual or video calls and the implementation of stringent safety measures to facilitate limited visitation. Moreover, the recommendation to allow fathers to visit at least once a day, rather than complete denial of access, emerged as a beneficial measure that could positively impact the parent-child relationship.

Throughout these discussions, participants consistently emphasized the profound importance of avoiding separation between parents and their babies in the NICU. This unity is not only crucial for the emotional development of the child but also plays a pivotal role in establishing a strong and enduring parent-child relationship. These findings underscored the urgent need for healthcare facilities to adapt and implement strategies that prioritize maintaining these vital connections, even in the face of challenging circumstances such as the COVID-19 pandemic

4.2.4 Theme 4: Consequences of challenges to facilitate bonding and attachment

4.2.4.1 Category 4.1: Consequences for the infant

This study provided valuable insights into the significant and multifaceted impact of separating mothers from their babies in the Neonatal Intensive Care Unit (NICU) during the COVID-19 pandemic. The participants voiced concerns about various aspects, including the handling of breast milk and the potential risk of COVID-19 transmission through breast milk, highlighting the uncertainties and anxieties that parents may have experienced regarding the safety of their infants in the NICU.

Participants questioned the necessity of separation due to COVID-19 and firmly expressed their belief that separation is not in the best interest of the baby's well-being. They vividly described the challenges posed by long separations between mothers and infants, which disrupted the bonding process, affected growth and development, and even necessitated formula feeding in some cases. Furthermore, participants recognized the critical role of early attachment between parents and infants and emphasize that separation hinders bonding, leading to potential attachment difficulties. They also acknowledged the long-term psychological impact on children who may lack a bond with their parents. Several parents shared their personal experiences of coping with the emotional toll of separation from their infants, detailing their infants' reactions and the efforts they made to stay connected despite the challenges.

These experiences emphasized the importance of maintaining family-centred care practices, providing robust support for parents, and finding innovative ways to facilitate bonding, even in exceptionally challenging circumstances like a pandemic.

4.2.4.2 Category 4.2: Consequences for parents

The participants in this study shed light on the profound emotional and psychological challenges experienced by parents when separated from their infants in the Neonatal Intensive Care Unit (NICU). These challenges extended to the distress that mothers felt when unable to be with their infants in this critical setting, emphasizing the pivotal role of maternal presence in bonding, particularly when the infant is ill. Participants consistently stressed the utmost significance of parents being present with their

infants in the NICU, underlining how the absence of bonding can hinder parents' ability to understand their baby's cues and monitor their growth, thus emphasizing the importance of family-centred and kangaroo care for premature infants. The emotional and physical stress experienced by parents in the NICU, compounded by witnessing medical procedures and the uncertainty surrounding their baby's health, was acknowledged. Parents' descriptions of trauma and worry further highlighted the emotional toll of separation and the anxieties it brings.

Moreover, the study highlighted the sense of falling apart and emotional upheaval that parents may experience when separated from their young infants. This separation also placed parents at a higher risk of post-natal depression, emphasizing the imperative of addressing the psychological well-being of parents in NICU settings to mitigate additional mental health challenges. The challenges of coping with COVID-19 restrictions in the NICU were also discussed, with participants expressing a mix of understanding for safety measures and the intensified feelings of anxiety, isolation, and frustration brought about by these restrictions. It highlighted the critical importance of maintaining the parent-infant bond and providing robust emotional support to parents facing these trying circumstances. Addressing the mental health needs of parents in the NICU is essential to ensure the well-being of both parents and infants during this challenging journey.

4.3 CONCLUSION REGARDING METHODOLOGY

In this descriptive, explorative qualitative study that was used to generate data to reflect the true views of parents and neonatal nurses on challenges they faced regarding parent-infant bonding and attachment in NICU as a result of the COVID-19 pandemic, the researcher used Microsoft Teams™ and face-to-face semi-structured interviews to obtain data. In this research, it is concluded that the chosen methodology effectively gathered substantial data for addressing the research question. The participants offered credible descriptions that helped gain an understanding of the difficulties experienced by both parents and nurses in promoting parent-infant bonding and attachment within the NICU as a result of the COVID-19 pandemic. While the findings were not extrapolated to a broader population, recommendations were formulated specifically for the given context.

4.4 RECOMMENDATIONS

Recommendations were made based on the themes and sub-themes that emerged.

4.4.1 Recommendations to facilitate parent-infant bonding and attachment

The following recommendations focus on the facilitation of parent-infant bonding and attachment:

- **Recommendations to facilitate bonding**
  - **Prioritize parental presence:** Emphasize the significance of allowing parents, especially mothers, to be with their infants in the NICU as it is crucial for bonding, breastfeeding, and providing emotional support.
  - **Flexible visitation hours:** Reconsider rigid visiting hours and propose flexible schedules that accommodate different parents' availability and preferences, including morning and afternoon slots, making it easier for parents to visit their babies regularly.
  - **Extended visitation periods:** Recognize the importance of longer visitation periods to facilitate bonding between parents and infants and support the emotional well-being of parents.
  - **Promote kangaroo care:** Acknowledge the importance of kangaroo care (prolonged skin-to-skin contact) for bonding and infant development, advocating for more opportunities for this practice.
  - **Involvement of fathers:** Recognize and encourage fathers' involvement in caregiving and bonding activities, highlighting the importance of their presence and participation.
  - **Balancing safety and emotional support:** Call for NICUs to adopt more flexible policies that consider the individual needs of families while adhering to safety guidelines, finding a balance between safety measures and emotional support.
  - **Improved communication:** Emphasize the need for better communication between healthcare providers and parents regarding visitation policies and schedules to ensure clarity and alignment with the best interests of both infants and their families.
  - **Adapting to changing situations:** Acknowledge that some visitation restrictions may be necessary in line with national regulations and guidelines,

particularly during a pandemic, but express hope that as the situation improves, more flexible policies can be implemented.

- **Allow face exposure:** Allow parents to expose their faces to their infants, even when wearing masks**,** to promote bonding through visual connection and emotional attachment.
- **Promote kangaroo care:** Recognize kangaroo care as a powerful bonding method and encourage parents, including those who may be COVID-19 positive, to engage in skin-to-skin contact with their infants for physical and emotional benefits.
- **Utilize technology:** Utilize technology for virtual visits, such as video calls, to enable remote interaction between parents and infants, maintaining a connection and involvement in their care.
- **Support groups:** Establish support groups for mothers and parents to provide emotional support and a sense of community, helping them navigate NICU challenges and promote bonding through shared experiences.
- **Engage in bonding activities:** Encourage bonding activities like holding the baby on the lap, skin-to-skin contact, talking softly, singing lullabies, reading stories, and gentle touch to create a sense of presence, comfort, and familiarity for the baby.
- **Active father participation:** Promote active father participation in bonding activities, such as skin-to-skin contact and spending quality time with their infants, to strengthen the parent-infant bond.
- **Engage healthcare providers**: Value the input of healthcare providers in enhancing parent-infant bonding, as their perspectives and experiences can inform strategies and protocols in NICU settings.

These recommendations emphasize the importance of finding creative ways to maintain and promote parent-infant bonding, even in challenging circumstances like the COVID-19 pandemic. Strategies encompass physical interactions, technology, emotional support, and communication to ensure active parental involvement in the care and emotional well-being of NICU infants. And highlights the importance of striking a delicate balance between safety measures and the emotional well-being of families in NICUs. They stress the significance of allowing parents to bond with their

infants through flexible visitation policies, extended visitation hours, and opportunities for kangaroo care, all while promoting clear and effective communication between healthcare providers and parents to ensure policies are both understood and in the best interest of infants and their families.

- **Recommendations for safe parent-infant contact**
  - **Timely testing for expectant mothers:** Emphasize the importance of conducting COVID-19 testing for expectant mothers before they enter the delivery room to prevent disruptions in the bonding process.
  - **Rapid testing and quick results:** Implement rapid testing for mothers with a quick turnaround of test results, especially if the results are negative, to allow immediate presence with their infants without unnecessary delays.
  - **Periodic testing for fathers:** Consider periodic testing for fathers to enable their visits and bonding with their babies in the neonatal unit, even if on a limited basis.
  - **Prioritizing testing for neonatal mothers:** Prioritize COVID-19 testing for neonatal mothers to expedite results and initiate bonding sooner.
  - **Use of personal protective equipment:** Implement the use of personal protective equipment, including masks and hand hygiene practices, to minimize the spread of COVID-19 while allowing parents to visit and hold their infants.
  - **Mandatory testing and vaccination cards:** Consider measures such as mandatory testing and vaccination cards for parents, along with designated visiting hours, to enable more frequent and safe parental visits to neonatal units.
  - **Continuous adaptation:** Acknowledge the evolving nature of COVID-19 and make continuous adjustments to protocols to strike a balance between infection prevention and supporting parent-infant bonding.
  - **Pre-admission testing for pregnant mothers:** Advocate for testing pregnant mothers for COVID-19 before admission to the hospital, particularly if they are at risk for premature birth, to prevent delays in bonding.
  - **Frequent testing with quick results:** Highlight the importance of frequent testing, along with rapid results, as a critical factor in enabling safe parent-infant bonding during the COVID-19 pandemic.

These recommendations and considerations stress the need to balance infection control measures with the emotional and developmental needs of parents and infants. They underscore the importance of continuous adaptation of protocols and timely testing as key strategies to facilitate safe parent-infant bonding in healthcare settings during the pandemic.

4.4.2 Recommendations for infrastructure

- **Proximity of lodging facilities:** Emphasize the significance of having lodging facilities close to the neonatal unit, enabling parents to stay near their infants for active involvement in care, including breastfeeding, diaper changes, and bonding.
- **Use of barriers or glass partitions:** Suggest the use of barriers or glass partitions that allow parents to visually connect with their babies even when physical contact is restricted, providing reassurance and opportunities for bonding.
- **Dedicated isolation rooms:** Propose the creation of dedicated isolation rooms for mothers and babies who test positive for COVID-19, allowing them to stay together while maintaining isolation protocols to reduce emotional distress from separation.
- **Facilities and infection control protocols:** Stress the importance of having proper facilities and infection control protocols in place to ensure that mothers and infants, especially when one or both are COVID-19 positive, can stay together safely.
- **Maintaining communication:** Highlight the need to maintain communication between parents and infants, even when physical contact is limited, as it provides hope and reassurance during challenging times.
- **Proactive planning:** Suggest that healthcare facilities should proactively plan for these situations, with protocols and facilities in place to support parent-infant bonding, especially during pandemics or crises.

These recommendations underscore the critical role of parent-infant bonding and the emotional well-being of parents and infants in the NICU. They also emphasize the

importance of adapting healthcare infrastructure to meet these needs, particularly during challenging times like the COVID-19 pandemic.

4.4.3 Further research

Further research needs to be conducted to determine the developmental outcomes of infants who were separated from their parents during the COVID-19 pandemic, as well as the long-term outcomes of the parents.

4.5 LIMITATIONS OF THE STUDY

During this study, the researcher encountered various challenges related to participant availability and conducting face-to-face interviews within the hospital setting. Over the course of the study, some participants experienced changes in contact information and a subset of participants relocated from South Africa to their respective home countries. Additionally, there were difficulties in arranging in-person interviews with parents within the hospital premises. These challenges arose due to safety concerns prevalent in the researcher's country, where parents expressed apprehension regarding the identity of the researcher and the safety of conducting interviews in a hospital setting. Consequently, interviews were conducted remotely, primarily via Microsoft Teams™ and at their homes, once a level of trust and comfort had been established with the participants.

As the research progressed, a new challenge emerged concerning load-shedding (the South African energy crisis or load shedding is an ongoing period of widespread national blackouts of electricity supply), with scheduling conflicts between the researcher and parents' access to the Internet, particularly as South Africa moved into stage 6 of the load shedding. This stage introduced additional time constraints as parents' schedules became increasingly occupied. Consequently, the researcher made the decision to continue with the available data, as data saturation had been reached while expressing a desire to engage with a larger number of parents if circumstances allowed.

Furthermore, the researcher encountered challenges in recruiting nurses to participate in the study. Nurses' availability was limited due to their demanding work schedules, prompting the researcher to coordinate interviews during their lunch breaks or before their shifts, both during daytime and night-time hours. These

logistical challenges were addressed through collaborative scheduling efforts between the researcher and the nurses to accommodate their availability.

4.6 FINAL CONCLUSION

The purpose of the study was to explore and describe the challenges faced by nurses and parents to facilitate parent infant bonding and attachment in the NICU during the COVID-19 pandemic. The study shared insight into challenges experienced by nurses and parents in promoting parent-infant bonding and attachment in the NICU as a result of the COVID-19 pandemic, aligned with existing literature on the profound impact of external stressors on early parent-infant relationships.

The current study underscored the increased emotional and communicative burdens placed on nurses, further emphasized the need for supportive protocols and resources, and the need to adjust practices to accommodate virtual communication and parental involvement. Furthermore, the study's findings emphasized the dual impact of the pandemic on parents, who faced both heightened stressors and reduced opportunities for engagement.

This study contributes to the existing literature by shedding light on the unique challenges faced by nurses and parents in NICUs as a result of the COVID-19 pandemic.

Reflections of the researcher

The main aim and objectives of this research were to explore and describe the challenges faced by nurses and parents to facilitate parents-infant bonding and attachment in the NICU amidst the challenges of the COVID-19 pandemic. The goal was achieved by collecting data via Microsoft Teams™ and face-to-face interviews and analysing it using Tesch's steps of qualitative analysis with the assistance of an external. Data saturation was reached. The data analysis yielded meaningful results. A thorough literature review was done, and the findings were aligned with the existing literature. The researcher adhered to ethical guidelines in this study.

The key findings of the research included the need for comprehensive internal policy changes, enhanced communication strategies, and targeted emotional support to ensure optimal parent-infant bonding and attachment despite the challenges posed by the pandemic.

The skills that I must improve upon are time management and to ask where I don't understand and have support groups, and I have learned that people take time to trust. This research experience shaped me academically. I am very satisfied with the outcomes of the research; I was beginning to lose hope but the fast-track programme assisted me to write faster. If I am to undertake a similar research project in the future, I will make sure that I plan my time better.

I am happy that my supervisor was giving me hope even if I fell behind, she wouldn't say it, but rather say 'are almost there'. I am especially happy that I can now declare that I am there.

REFERENCES

Adama E.A., Koliouli F., Provenzi L., Feeley N., Van Teijlingen E., Ireland J., Thomson-Salo F &| Khashu M. 2022. COVID-19 restrictions and psychological well-being of fathers with infants admitted to NICU: An exploratory cross-sectional study. Act Paediatr,111(9):177-178.

Adom, D., Yeboah, A. & Ankrah, A.K. 2016. Constructivism philosophical paradigm: implication for research, teaching, and learning. Global Journal of Arts Humanities and Social Sciences, 4(10):1-9.

Akkuş Y, Karacan, Y, Güney, R, & Kurt, B. 2020.Experiences of nurses working with COVID-19 patients: A qualitative study. DOI: 10.1111/jocn.15979.

Althubaiti, A. 2016. Information bias in health research: definition, pitfalls, and adjustments methods. Journal of Multidisciplinary Healthcare,9:211-217.

Babaei,S., Taleghani,F., & Farzi,S. 2022. Components of Compassionate Care in Nurses Working in the Cardiac Wards: A Descriptive Qualitative Study. J Caring Sci, 11 (4), 239-245.

Ben-joseph, E. P.2018. Bonding with your baby.

Benoit, D. 2004. Infant-parent attachment: Definition, types, antecedents, measurement and outcome. Paediatric Child Health. 9(8): 541–545. doi: 10.1093/pch/9.8.541.

Bernardo, J., Rent, S., Arias-Shah, A., Hoge, M.K. & Shaw, R.J. 2021. Parental stress and mental health symptoms in the NICU: recognition and interventions. NeoReviews, 22(8): e496-e505.

Botma, Y., Greef, M., Mulaudzi, F.M. & Wright, S.C.D. 2010. Research in the health sciences. Cape Town: Heinemann.

Brink, H., Van der Walt, C., & Van Rensburg, G. 2018. Fundamentals of Research Methodology for Healthcare Professionals.4 th ed. Cape Town: Juta.

Bruce, J.C., Klopper, H.C., & Mellish, J.M. 2015. Teaching and learning the practice of nursing. 5th ed. Cape Town: Heinemann.

Bry, A. & Wigert, H. 2019. Psychosocial support for parents of extremely preterm infants in neonatal intensive care: a qualitative interview study. BMC Psychology, 7(76): 1-12.

Cena, L., Biban, P., Janos, J., Lavelli, M., Langfus, J., & Tsai, A. 2021. The collateral impact of COVID-19 emergency on Neonatal Intensive Care Units and Family-Centred Care: challenges and opportunities. Frontiers in Psychology, 12(630594):1-10.

Christopher, J., Pannucci, M.D, & Edwin, G.W. 2010. Identifying and Avoiding Bias in Research. Plastic Reconstruct Surgry.126(2): 619-625.

Collins Cobuild Dictionary. 2020. [Online]. From:https://www.collinsdictionary.com/dictionary/english/challenge [accessed 11 October 2021].

Creswell, J.W. & Creswell, J.D. 2014. Research Design: Qualitative, quantitative and mixed methods approach.

Da Fonseca, S.A., Silveira, A.O., Franzoi, M.A. & Motta, E. 2020. Family centered care at the neonatal intensive care unit (NICU): nurses' experiences. Cuidados Humanizados, 9(2): 170-190. doi: 10.34172/jcs.2022.24.

Dumpa, V., Kamity, R., Vinci, A. N, Noyola, E. & Noor, A. 2019.Neonatal Coranavirus 2019 (COVID-19) Infection. Case Report and review of literature. Cures,12(5):1-9.

Duncan, G.J., Lee, K. T.H, Rosales-Rueda, M & Kalil, A. 2018. Maternal Age and Child Development. Population Association of America, 55(6): 2229-2255.

Ettenberger, M., Bielenink, L., Epstein, S. & Elefant, C. 2021. Defining attachment and bonding: overlaps, differences and implications for music therapy clinical practice and research in the Neonatal Intensive Care Unit (NICU). International Journal of

Environmental Research and Public Health, 18(1733):1010. https://doi.org/10.3390/ijerph18041733 [accessed 28 September 2021].

Flacking, R., Lehtonen, L., Thomson, G., Axelin, A., Ahlqvist, S., Moran V.H., Ewald, U., & Fiona, D. 2012. Closeness and separation in neonatal intensive care. Acta Paediatric, (101):1032-1037.

Frazier, K.F. & Scharf, R.J. 2015. Pediatrics in Review, 36(1):41-42. DOI: 10.1542/pir.36-1-41.

Gardner, S.L., Carter, B.S., Enzman-Heines, M. & Niermeyer, S. 2021. Merenstein & Gardner's Handbook of Neonatal Intensive Care: an interprofessional approach. Elsevier: St Loius, Missouri.

Gazette 2020.Soth African Disaster Management Act 2002.Gazzette no 43599.

GeriLoBiondo-Wood, J.H.2016. Nursing Research: Methods and appraisal for evidence-based practices. 9th ed, s.l, elesvier.

Goga A., Feucht U., Pillay S., Reubeson G., Jeena P. & Mahdi S. 2021. Parental Access to Hospitalized Children during Infectious diseases such as COVID-19. SCMJ. vol 11:71-96.

Goga,A., Feucht,U., Pillay,S., Reubenson, G., Jeena,P., Mahdi,S., Mayet,N.T., Velaphi,S., McKerrow,N., Mathivha,L.R., Makubalo,N., Green,R.J., & Gray,G. 2021.Parental access to hospitalised children during infectious disease pandemics such as COVID-19. PMID: 33944717 DOI: 10.7196/SAMJ. 2021.v111i2.15388.

Guba, E. G., & Lincoln, Y. S. 2005. Paradigmatic Controversies, Contradictions, and Emerging Confluences. In N. K. Denzin & Y. S. Lincoln, The Sage handbook of qualitative research, 3rd ed., pp 191–215. Sage Publications Ltd.

Hatch M. & Posel D. 2018. Who care for children, A Quantitative study of childcare in South Africa. Development Southren African. 35(2).

He, F.B., Axelin, A., Ahlqvist-Björkroth, S., Raiskila, S., Löyttyniemi, E. & Lehtonen, L. 2021. Effectiveness of the close collaboration with parents' intervention on parent-infant closeness in NICU. BMC Pediatrics, 21(8):1-8. https://doi.org/10.1186/s12887-020-02474-2 [accessed 8 September 2021].

Hunter, D.J., McCallum, J. & Howes, D. 2019. Defining Exploratory-Descriptive Qualitative (EDQ) research and considering its application to healthcare. Journal of Nursing and Health Care (JNHC), 4(1):1-7. DOI: 10.5176/2345-7198_4.1.202. http://dl6.globalstf.org/index.php/jnhc/article/view/1975 [accessed 5 February 2022].

Ionio C, Mascheroni E, Colombo C, Castoldi F & Lista G. 2019. Stress and feelings in mothers and fathers in NICU: identifying risk factors for early interventions. Primary Health Care Research & Development 20(e81): 1–7. doi: 10.1017/S1463423619000021.

Iuele, L. 2018. A Guide to Bonding in the Neonatal ICU. https://digitalcommons.sacredheart.edu/acadfest/2018/all/139.

Jackson T, Steed L, Pedruzzi R, Beyene K & Chan A, H, Y. 2022. Editorial: COVID-19 and Behavioral Sciences. Front. Public Health, 9:830797. doi: 10.3389/fpubh.2021.830797.

James, W., McClelland, A., Stanberry, L.R., Rubin-Thompson, L & White, L. 2021. Epidemic / pandemic response in Africa: COVID-19 in Egypt, Ethiopia, Kenya, Nigeria and South Africa. The Brenthurst Foundation. Colombia: Vagelos College of Physicians and Surgeons. The programmes in global health. http://www.sun.ac.za/english/faculty/healthsciences/global-health/Documents/GH%20Seminars%20Documents%202021/2.B%20To%20be%20uploaded%20during%20Dr%20Heinrich's%20talk_EPRiA_Full_20Jan.pdf [accessed 6 February 2022].

Kelleher, J., Dempsey, J., Takamatsu, S., Paul, J.J., Kent, E. & Dempsey, A.G. 2022. Adaptation of infant mental health services to preterm infants and their families receiving neonatal intensive care unit services during the COVID-19 pandemic. Infant Mental Health Journal,43;100-110. DOI: 10.1002/imhj.21961.

Kim, S & Kim,A.R. 2022. Attachment- and Relationship-Based Interventions during NICU Hospitalization for Families with Preterm/Low-Birth Weight Infants: A Systematic Review of RCT Data. Int. J. Environ. Res. Public Health, 19, 1126. https://doi.org/10.3390/ ijerph19031126.

Kim,A.R, Kim,S & Ji Eun Yun,J.2020. Attachment and relationship-based interventions for families during neonatal intensive care hospitalization: a study protocol for a systematic review and meta.

Kivunja, C. & Kuyini, A.B. 2017. Understanding and Applying Research Paradigms in Educational Contexts. International Journal of Higher Education. 6(5): 26-41.

Laccetta, G., Di Chiara,M., & Terrin,G. 2023.Symptoms of post-traumatic stress disorder in parents of preterm newborns: A systematic review of interventions and prevention strategies. DOI: 10.3389/fpsyt.2023.998995.

Lalla-Edward ST, Mosam A, Hove J, Erzse A, Rwafa-Ponela T, Price J, Nyatela A, Nqakala S, Kahn K, Tollman S, Hofman K & Goldstein S. 2022. Essential health services delivery in South Africa during COVID-19: Community and healthcare worker perspectives. Front. Public Health 10:992481. doi: 10.3389/fpubh.2022.992481.

Latifi, R.2019. The Modern Hospital Patient Centered Disease Based Research Orientation Technology Driven.1st edition, springs.

Lisle,J , Buma,K , Smith,J , Richter,M , Satpute,P & Pineda,R.2022. Maternal Perceptions About Sensory Interventions in the Neonatal Intensive Care Unit: An Exploratory Qualitative Study. Volume 10 – 2022. https://doi.org/10.3389/fped.2022.884329.

Liu,C.H, Hyun,S, Mittal,L & Erdei,C.2021.Psychological risks to mother–infant bonding during the COVID-19 pandemic.

Lobiondo-Wood, G. & Haber, J. 2018. Nursing Research: Methods and critical appraisal for evidence-based practice. 9th ed. Elsevier: St Louis, Missouri.

Mahoney, A.D., White, R.D., Velasquez, A., Barrett, T.S., Clark, R.H. & Ahmad, K.A. 2020. Impact of restriction on parental presence in neonatal intensive care units related to coronavirus disease 2020.Journal of Perinatology. (40):36-46.x

Majid, M.A.A., Othman, M., Mohamad, S.F., LimS, A.H. & Yusof, A. 2017. Piloting for interviews in qualitative research: operationalization and lessons learnt article. International Journal of Academic Research in Business and Social Sciences. 7(4): 1073-1080.

Manoochehri, H, Imani, E, Atashzadeh-Shoorideh, F & Alavi-Majd, H.2015. Competence of novice nurses: role of clinical work during studying. Vol. 8. Journal of Medicine and Life, Special Issue 4: pp.32-38.

Maree,C, Scheepers, M & E S Janse van Rensburg, E.S. 2020. Competencies for structured professional development of neonatal nurses in South Africa.

Moullin, S., Waldfogel, J., & Washbrook, E. 2014. Baby Bonds: Parenting, attachment and a secure base for children.

Nassaji, H. 2015. Qualitative and descriptive research: Data type versus data analysis. Language Teaching Research, 19(2):129–132. DOI: 10.1177/1362168815572747.

Ndango, N. 2017. Parents' perception of nursing support in neonatal intensive care units in private hospitals in the Western Cape. Research Ethics Committee. 1-77.

Obeidat H.M., Bond E.A., & Callister L. 2009. The Parental experience of having newborns in the intensive care unit. The journal of perinatal education, 18(3):23-29. DOI: 10.1624/105812409X46119.

Patton, M. 2015. Qualitative Research and Evaluation Methods. 4th Edition, Sage Publications, Thousand Oaks.

Polit, D., & Beck, C.T. 2017. Nursing Research: Generating and Assessing Evidence for Nursing Practice. 10th ed. Wolters Kluwer and Lippincott: Philadelphia.

President and Fellows of Harvard College. 1999. All rights reserved. Materials adapted from the paper version of Faculty Policies on Integrity in Science, available from the Office for Research Issues, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115. (617) 432-3191).

Qi Lu, & Yuan Shi. 2020. Coronavirus disease (COVID-19) and neonate: What neonatologist need to know. Journal of Medical Virology, 92:564-567.

Radulova, A., Dimitrova,V.I. & Slancheva, B.P. 2021. COVID-19 in Neonates: A Case Series. Perinatology, 22(1):45-50.

Ramokolo, V., Malaba, T., Rhoda, N., Kauchal, S. & Gogai, A. 2019. A landscape analysis of preterm birth in South Africa: systemic gaps and solutions. South African Health Review, 134-144.

Redshaw, M. & Martin, C. Babies, 'bonding' and ideas about parental 'attachment'. Journal of Reproductive and Infant Psychology, 31(3):219-221. DOI: 10.1080//026468838.2013.83383. https://dx.doi.org.10.1080/026468838.2013.830383 [accessed 6 February 2022].

Republic of South Africa. 2013. Protection of Personal information Act (Act No. 4 of 2013). Government Gazette.

Rifat L.2019. The Modern Hospital Patient Centred Disease. Based Research Oriented Technology Driven. 1st ed, New York, Springer.

Rollè, L, Giordano,M , Santoniccolo, F & Trombetta, T. 2020.Prenatal Attachment and Perinatal Depression: A Systematic Review. Int. J. Environ. Res. Public Health, 17, 2644; doi:10.3390/ijerph1708264.

Rubin, H. J., & Rubin, I. S. 2012. Qualitative interviewing: The art of hearing data. Sage publications.

Smith Y. 2023, Nursing Healthcare Profession. Online:https://www.news-medical.net/health/Nursing-Healthcare-Profession.aspx

South African Framework and Guidelines for Maternal and Neonatal Care during a crisis: COVID-19 response. 2021. Version 3.5. https://www.samrc.ac.za/sites/default/files/attachments/2021-02-24/COVID-19%20response%20MNH%20FRAMEWORK%20-%20V3.5%20%20%28updated%2016%20Feb%202021%29.pdf [accessed 10 January 2022].

Spencer, E.A, Brassey, J, & Mahtani. K. 2017. Catalogue of Bias: Recall.

Stebbins, R.A. 2001. Exploratory research in the social science. Sage. California.

Teresa-Morales, C.; Rodríguez-Pérez, M.; Araujo-Hernández, M.; & Feria-Ramírez, C. 2022. Current Stereotypes Associated with Nursing and Nursing Professionals: An Integrative Review. Int. J. Environ. Res. Public Health, 19, 7640. https://doi.org/10.3390/ ijerph19137640.

Thomas, T., Laher, A. E., Mahomed, A., Stacey, S., Motara, F., & Mer, M. 2020.Challenges around COVID-19 at tertiary level healthcare facility in South Africa and strategies. South African Medical journal, 19;100(10):964-967.

Trombetta, T., Giordano, M., Santoniccolo, F., Vismara, L., Vedova, A.M.D. & Rollé, L. 2021. Pre-natal attachment and parent-to-infant attachment: a systematic review. Frontiers in Psychology, 12(Art. 620942):1-17. DOI: 10.3389/fpsyg.2021.620942.

Van Veenendaal, N.R., Deierl, A., Bacchini, F., O'Brien, K. & Franck, L.S. 2021.Supporting parents as essential care partners in neonatal units during the SARS-CoV-2 pandemic. Acta Paediatrica. 2021(00):1–12. DOI: 10.1111/apa.15857.

Winstona, R & Chicot, R. 2016. The importance of early bonding on the long-term mental health and resilience of children. London Journal of Primary Care, VOL. 8, NO. 1, 12–14 http://dx.doi.org/10.1080/17571472.2015.1133012.

Wittkowski, A., Vatter, S., Muhinyi, A., Garrett, C. & Henderson, M. 2020. Measuring bonding or attachment in the parent-infant-relationship: a systematic review of parent-report assessment measures, their psychometric properties and clinical utility. Clinical

Psychology Review, 82:199-127. https://doi.org/10.1016/j.cpr.2020.101906 [accessed 4 February 2021].

World Health Organization. 2020. Standards for improving quality of care for small and sick newborns in health facilities. Department of Maternal, Newborn, Child and Adolescent Health and Ageing. https://www.who.int/publications/i/item/9789240010765 [accessed 8 December 2021].

Woźniak-Prus, M., Gambin, M., Sękowski, M., Cudo, A., Pisula, E., Kiepura-Nawrocka, E., & Kmita, G. (2023). Positive experiences in the parent–child relationship during the COVID-19 lockdown in Poland: The role of emotion regulation, empathy, parenting self-efficacy, and social support. Family Process, e12856.

Yoshida, S & Funato, H. 2021. Physical contact in parent-infant relationship and its effect on fostering a feeling of safety.

ANNEXURE A

Interview guide for face-to-face individual interviews: semi-structured questions

Good day. My name is Ntombizodwa Julia Mokwayi, but you are welcome to call me Sr Mokwayi.

This interview is conducted to obtain your view on challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic. This interview will not last longer than one hour. The interview will also be audio recorded to ensure that we do not miss any points.

Main question:

What are the challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic?

Possible interview question:

Facilitating is regarded as actions, processes or activities that can be used to make things easier.

- Tell me, what do you think are the challenges that hinder/prevent bonding or attachment in the NICU during the COVID-19 pandemic?
- Tell me, what do you think can be used/done to facilitate bonding and attachment in the NICU during the COVID-19 Pandemic?

Probing questions:

- Do you think it is important for you/parents not to be separated from the/your baby in the NICU? Yes or no and why do you say so?
- Do you think parents with infants in the NICU were considered when applying COVID-19 rules? Yes/No. Please tell me why you think so
- Please tell me what is bonding for you.
- What do you think are the activities you can do/parents can do for your/their infant to ensure bonding?
- Are you/parents able to do these activities during your/their visit to the infant? How did it make you to feel?
- In your view, what do you think can be done to improve or facilitate bonding?
- Please tell me what attachment is.
- What do you think are the activities you can do/parents can do for your/their infant to ensure attachment?

- When you visit, what are the activities that you are doing during the time you are there?
- Tell me, what do you think can be done to improve or facilitate attachment?
- Tell me how the COVID-19 restrictions make you to feel.
- What do you think we can put in place to allow more frequent visiting by the parents?
- Tell me what will make it easier for you as the parents to bond and attach to your infant. What do you think the staff/hospital can do to make it easier for parents to bond and attach to their infant?

ANNEXURE B1

PARTICIPANT'S INFORMATION AND INFORMED CONSENT DOCUMENT: PARENTS

STUDY TITLE: CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

Principal Investigators: Ntombizodwa Julia Mokwayi

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime number/s: 0782146041

Afterhours number: 0782146041

DATE AND TIME OF FIRST INFORMED CONSENT DISCUSSION:

Date	**month**	**Year**

:
Time

Dear Prospective Participant

Dear Mr. / Mrs. .....

1) INTRODUCTION

You are invited to volunteer for a research study. I am doing research for a master's degree purpose at the University of Pretoria. This information in this document is to help you to decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the researcher. You should not agree to take part unless you are completely happy about all the procedures involved.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of this study is to explore and describe challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic. By doing so I wish to learn more on how parents and neonatal nurses will facilitate parent-infant bonding and attachment in a NICU during the COVID-19 pandemic.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS.

This study involves answering some questions with regarding challenges to facilitate bonding and attachment between parents and their infants in the NICU during the COVID-19 pandemic. I will conduct face-to-face interviews which means that you will be alone in the same room

with me. The questions focus on challenges and bonding and attachment and what can be done or put in place to improve bonding and attachment between you and your infant. The duration of the interview may take about 30 minutes to an hour.

4) POSSIBLE RISKS AND DISCOMFORTS INVOLVED

There are no risks associated with participation in the study and no possible discomfort involved in the study.

5) POSSIBLE BENEFITS OF THIS STUDY

Although you may not benefit directly. The study results may help me to understand the challenges and facilitate parental bonding and attachment in the NICU during the COVID-19 pandemic.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Your participation in this study is entirely voluntary and you can refuse to participate or stop at any time without stating any reason. Your withdrawal will not affect your child access to medical care.

8) ETHICS APPROVAL

The protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been granted by that committee. The study has been structured in accordance with the Declaration of Helsinki (last update: October 2013, view Annexure F), which deals with the recommendations guiding doctors in biomedical research involving human/subjects. A copy of the Declaration may be obtained from the investigator should you wish to review it.

9) INFORMATION

If I have any questions concerning this study, I should contact:
SR MOKWAYI
Cell: 0782146041

10) CONFIDENTIALITY

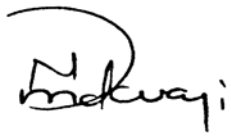
All information obtained during this study will be regarded as confidential. Each participant that is taking part will be provided with an alphanumeric coded number e.g. A001. This will ensure confidentiality of information so collected. Only the researcher will be able to identify you as participant. Results will be published or presented in such a fashion that patients remain unidentifiable. The hard copies of all your records will be kept in a locked facility at Department of Nursing Science, The University of Pretoria.

11) CONSENT TO PARTICIPATE IN THIS STUDY

- I have also received, read, and understood the above written information about the study.
- I have had adequate time to ask questions and I have no objections to participate in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed, and presented in the reporting of results.
- I understand that I will not be penalised in any way should I wish to discontinue with the study and that withdrawal will not affect my further treatments.

- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

NB: Consent is specific to the collection of data regarding parents-infant bonding and attachment and recommendations will be based on the finding. Data will not be re-used for any future researcher.

Participant's name (Please print)	Date
Participant's signature	Date
NTOMBIZODWA JULIA MOKWAYI	24 August 2021
Researcher's name	Date
	24 August 2021
Researcher's signature	Date
Signature of the Witness	Date

CONSENT TO USE VOICE RECORDER

Yes	No	Signature	Date

VERBAL PARTICIPANT INFORMED CONSENT (applicable for participants that can't read or write)

I, the undersigned, Mrs/Ms …….…… have read and have explained fully to the participant, named ……..…… and/or her relative, I have read and explained the content of this consent form to the participant which indicates the nature and purpose of the study. The explanation I have given is that the participation is voluntary and that the participant is welcome to withdraw from the study should he/she need to. I have also explained to the participant the absence of risks and benefits of the study. The participant has verbalised her understanding of the content included in this form and has agreed to participate in this research study.

Participant's name: Date

_____ _____

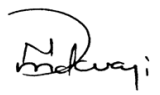
Participant's signature: Date

_____ _____

Investigator's name: Date

NJ Mokwayi

Investigator's signature: Date



_____

Witness: Date

_____ _____

Witness signs that he/she has witnessed the process of informed consent

ANNEXURE B2

PARTICIPANT'S INFORMATION AND INFORMED CONSENT DOCUMENT: NEONATAL NURSES

STUDY TITLE: CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

Principal Investigators: Ntombizodwa Julia Mokwayi

Institution: University of Pretoria

DAYTIME AND AFTER-HOURS TELEPHONE NUMBER(S):

Daytime number/s: 0782146041

After hours number: 0782146041

DATE AND TIME OF FIRST INFORMED CONSENT DISCUSSION:

				:
Date	**month**	**Year**		**Time**

Dear Prospective Participant

Dear Mr. / Mrs. .....

1) INTRODUCTION

You are invited to volunteer for a research study. I am doing research for a master's degree purpose at the University of Pretoria. This information in this document is to help you to decide if you would like to participate. Before you agree to take part in this study you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the researcher. You should not agree to take part unless you are completely happy about all the procedures involved.

2) THE NATURE AND PURPOSE OF THIS STUDY

The aim of this study is to explore and describe challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic. By doing so I wish to learn more about these challenges and how to facilitate parent-infant bonding and attachment in a NICU during the COVID-19 pandemic.

3) EXPLANATION OF PROCEDURES AND WHAT WILL BE EXPECTED FROM PARTICIPANTS.

This study involves answering some questions regarding challenges to facilitate bonding and attachment between parents and their infants during the COVID-19 pandemic. I will conduct face-to-face interviews which means that you will be alone in the same room with me. The questions focus on challenges, bonding and attachment and what can be done or put in place to overcome the challenges and improve bonding and attachment between parents and their infants. The duration of the interview may take about 30 minutes to an hour.

4) POSSIBLE RISKS AND DISCOMFORTS INVOLVED

There are no risks associated with participation in the study and no possible discomfort involved in the study.

5) POSSIBLE BENEFITS OF THIS STUDY

Although you may not benefit directly. The study results may help me to overcome challenges and facilitate parent-infant bonding and attachment in the NICU during the COVID-19 pandemic.

6) COMPENSATION

You will not be paid to take part in the study. There are no costs involved for you to be part of the study.

7) YOUR RIGHTS AS A RESEARCH PARTICIPANT

Your participation in this study is entirely voluntary and you can refuse to participate or stop at any time without stating any reason.

8) ETHICS APPROVAL

The protocol was submitted to the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, telephone numbers 012 356 3084 / 012 356 3085 and written approval has been granted by that committee. The study has been structured in accordance with the Declaration of Helsinki (last update: October 2013, view Annexure F), which deals with the

recommendations guiding doctors in biomedical research involving human/subjects. A copy of the Declaration may be obtained from the investigator should you wish to review it.

9) INFORMATION

If I have any questions concerning this study, I should contact:

SR MOKWAYI

Cell: 078 214 6041

10) CONFIDENTIALITY

All information obtained during the course of this study will be regarded as confidential. Each participant who is taking part will be provided with an alphanumeric coded number e.g. A001. This will ensure the confidentiality of the information so collected. Only the researcher will be able to identify you as a participant. Results will be published or presented in such a fashion that patients remain unidentifiable. The hard copies of all your records will be kept in a locked facility at the Department of Nursing Science, The University of Pretoria.

11) CONSENT TO PARTICIPATE IN THIS STUDY

- I have also received, read and understood the above written information about the study.
- I have had adequate time to ask questions and I have no objections to participating in this study.
- I am aware that the information obtained in the study, including personal details, will be anonymously processed and presented in the reporting of results.
- I understand that I will not be penalised in any way should I wish to discontinue the study and that withdrawal will not affect my further treatments.
- I am participating willingly.
- I have received a signed copy of this informed consent agreement.

NB: Consent is specific to the collection of data regarding parents-infant bonding and attachment and recommendations will be based on the finding. Data will not be re-used for any future researcher.

_____ _____

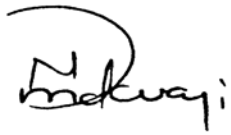
Participant's name (Please print) Date

_____ _____

Participant's signature Date

NTOMBIZODWA JULIA MOKWAYI 24 August 2021

Researcher's name (Please print) Date



24 August 2021

Researcher's signature Date

_____ _____

Signature of the Witness Date

CONSENT TO USE VOICE RECORDER

Yes	No	Signature	Date

VERBAL PARTICIPANT INFORMED CONSENT (applicable for participants that can't read or write)

I, the undersigned, Mrs/Ms …… have read and have explained fully to the participant, named …… and/or her relative, I have read and explained the content of this consent form to the participant which indicates the nature and purpose of the study. The explanation I have given is that the participation is voluntary and that the participant is welcome to withdraw from the study should he/she need to. I have also explained to the participant the absence of risks and benefits of the study. The participant has verbalised her understanding of the content included in this form and has agreed to participate in this research study.

NB: Consent is specific to the collection of data regarding parents-infant bonding and attachment and recommendations will be based on the finding. Data will not be re-used for any future researcher.

Participant's name: Date

_____ _____

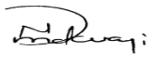
Participant's signature: Date

_____ _____

Investigator's name: Date

NJ Mokwayi _____

Investigator's signature: Date



_____

Witness: Date

_____ _____

Witness signs that he/she has witnessed the process of informed consent

ANNEXURE C1

Gauteng Department of Health

PERMISSION TO CONDUCT RESEARCH AT STEVE BIKO ACADEMIC HOSPITAL IN THE NICU

To: Gauteng Department of Health

From: Ms NJ Mokwayi
E-mail: ntombijulia@icloud.com

Re: Permission to conduct research at Steve Biko Academic Hospital

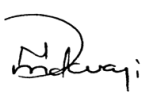
Dear Madam/Sir

I am a researcher working Regional Training Center under Professional Development who is also trained in Child Nursing Science and previously worked in the Neonatal Intensive Care Unit of the above hospital as a specialty professional nurse. I am currently a student at the University of Pretoria, working towards my master's degree in Child Nursing Science. I am kindly requesting permission to conduct a study in the Neonatal Intensive Care Unit of the Steve Biko Academic Hospital. The participants will be the parents with infants in the NICU and neonatal nurses who are working in the NICU. The request is lodged with you in terms of the requirements of the Promotion of Access to Information Act. No.2 of 2000. Ethics approval will be obtained from the University of Pretoria Research Ethics Committee and the CEO of the selected hospital.

The title of the study is**: Challenges faced by nurses and parents to facilitate parent-infant bonding and attachment in a neonatal intensive care unit during the COVID-19 pandemic.**

I intend to publish the findings of the study in a professional journal. The identities of the participants will be protected by assigning each a random number and the name of the Hospital will be kept confidential. I undertake not to proceed with the study until I have received approval from the Faculty of Health Sciences Research Ethics Committee, University of Pretoria as well as the Gauteng Department of Health.

Yours sincerely



Ms NJ Mokwayi
19 October 2022

ANNECXURE C2

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

STEVE BIKO ACADEMIC HOSPITAL

Enquiries: Dr LMB Majake-Mogoba
Tel No: +2712 345 2336/1141 Fax No: +2712 354 2151 e-mail: lehlohonolo.mnajake@gauleng.gov.za

For attention: MS Ntombizodwa Mokwayi
NI-IRD Ref Number: GP -202211- 025

Re: REQUEST FOR PERMISION TO CONDUCT RESEARCII AT STEVE BIKO ACADEMIC HOSPITAL

TITLE: CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONA TAL INTENSIVE CARE UNIT DURING COVID-19 PANDEMIC

Permission is hereby grated for the above-mentioned research to be conducted at Steve Biko Academic Hospital. This is done in accordance with the "Promotion to access to information act No 2 of 2000". Please note that in addition to receiving approval from Hospital Research Committee, the researcher is expected to seek permission from all relevant department. Furthermore, collection of data and consent for participation remain the responsibility of the researcher. The hospital will not incur extra cost as a result of the research being conducted within the hospital.

You are also required to submit your final report or summary of your findings and recommendations to the office of the CEO.

STATUS OF APPLICATION:

Approved

Dr.LMB Majake-Mogoba
Clinical Director

Date: 2023/01/23

STEVE BIKO
pRiVATE SAG X 16?
2023 -Ol- 2 3
PRETORIA 1
ACADEMIC HOSPITAL

ANNEXURE C3

Departmental In-House approval letter

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences
Department of Nursing Science

Enquiries: Prof AE van der Wath
Tel: 0123563172
Mobile: 0845063142
Email: annatjie.vanderwath@up.ac.za

8 February 2022

The Chair: Post Graduate Committee

Dear Prof,

Letter of approval from Departmental In-house committee

The proposal of student: Ntombizodwa Julia Mokwayi, student number: 13394585, served before the In-house committee of the Department of Nursing Science and was approved for submission to the Post Graduate School Committee. The title: CHALLENGES TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN THE NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

Internal reviewers: Prof Yazbek & Ms Musie

Yours sincerely

Prof AE van der Wath
Associate professor
Department of Nursing Science
University of Pretoria
Cell phone: +27845063142
Office: (012) 356-3172
Email: annatjie.vanderwath@up.ac.za

ANNEXURE C4

Faculty of Health Sciences
School of Health Care Sciences
Room 5-19. HW Snyman South
University of Pretoria,
Private Bag X323
GEZINA
0007
Tel: 012 356-3213/4
Kitty.uys@up.ac.za

20 July 2022

Faculty Ethics Committee

Faculty of Health Sciences

University of Pretoria

To whom it may concern,

Evaluation of a protocol for the following student:

Student: **Ntombizodwa Julia Mokwayi (13394585)**

Title: CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

This letter serves to confirm that the above-mentioned protocol was discussed by the Postgraduate Committee of the School of Health Care Sciences during the: On- line meeting of 6 April 2022.

The proposal was accepted **with minor changes**, and the corrections were implemented.

The proposal is hereby referred to your committee for ethical clearance.

Sincerely yours,

Professor Kitty Uys

Chairperson: Research and postgraduate committee

School of Health Care Sciences

ANNEXURE C5

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023.

Faculty of Health Sciences **Research Ethics Committee**

27 October 2022

Approval Certificate
New Application

Dear Ms NJ Mokwayi

Ethics Reference No.: 458/2022
Title: CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

The **New Application** as supported by documents received between 2022-07-25 and 2022-10-25 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2022-10-25 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2023-10-27.
- Please remember to use your protocol number (458/2022) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

Researcher: Please note that recall bias may happen without the awareness of participants so this should be included as part of the study's limitations in the research report.

We wish you the best with your research.

Yours sincerely

On behalf of the FHS REC, Dr R Sommers
MBChB, MMed (Int), MPharmMed, PhD
Deputy Chairperson *of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria*

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
Room 4-60, Level 4, Tswelopele Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel +27 (0)12 356 3084
Email: deepeka.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

ANNEXURES: D
Plagiarism declaration

Full names	Ntombizodwa Julia Mokwayi
Student number	13394585
Topic of work	**CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC**

The Department of Nursing Sciences places great emphasis upon integrity and ethical conduct in the preparation of all written work submitted for academic evaluation.

Academics teach you about referencing techniques and how to avoid plagiarism; it is your responsibility to act on this knowledge. If you are at any stage uncertain as to what is required, you should speak to your lecturer before any written work is submitted.

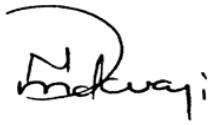
You are guilty of plagiarism if you copy something from another author's work (e.g., a book, an article or a website) without acknowledging the source and pass it off as your own. In effect you are stealing something that belongs to someone else. This is not only the case when you copy work word-for-word (verbatim) but also when you submit someone else's work in a slightly altered form (paraphrase) or use a line of argument without acknowledging it.

Students who commit plagiarism will not be given any credit for plagiarised work. The matter may also be referred to the Disciplinary Committee (Students) for a ruling. Plagiarism is regarded as a serious contravention of the University's rules and can lead to expulsion from the University.

The declaration which follows must accompany all written work submitted while you are a student of the Department of Nursing Sciences. No written work will be accepted unless the declaration has been completed and submitted.

Declaration

1. I understand what plagiarism is and am aware of the University's policy in this regard.
2. I declare that this proposal (e.g., essay, report, project, assignment, dissertation, thesis, etc.) is my own original work. Where other people's work has been used (either from a printed source, internet or any other source), this has been properly acknowledged and referenced in accordance with the requirements as stated in the University's plagiarism prevention policy.
3. I have not used another student's past written work to hand in as my own.
4. I have not allowed, and will not allow anyone to copy my work with the intention of passing it off as his or her own work.



Signature
N.J MOKWAYI

Date
19 August 2021

ANNEXURE E

Principal Investigator's Declaration for the storage of research data and/or documents

I, Ntombizodwa Julia Mokwayi the Principal Investigator(s) of the following study: **CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC.**

will be storing all the research data and/or documents referring to the above-mentioned trial/study at the following residential address:

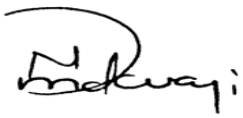
2950 Uriniamo street
Kirkney Estate ext 38
Pretoria west
0183

I understand that the storage for the abovementioned data and/or documents must be maintained for a minimum of 15 years from the end of this trial/study.

START DATE OF /STUDY: January 2022 END DATE OF L/STUDY: December 2022

SPECIFIC PERIOD OF DATA STORAGE AMOUNTING TO NO LESS THAN 15 YEARS:
April 2022 until December 2037

Name: NJ Mokwayi



Signature **Date**
19 August 2021

ANNEXURE F

All Researchers

Please note that all researchers must from today, sign the attached declaration, when handing in a protocol at the Faculty of Health Sciences Research Ethics Committee - University of Pretoria.

WORLD ASSOCIATION DECLARATION OF HELSINKI
Ethical Principles
For
Medical Research Involving Human Subjects

Adopted by the 18th WMA General Assembly
Helsinki, Finland, June 1964
And amended by the
29th WMA General Assembly, Tokyo, Japan, October 1975
35th WMA General Assembly, Venice, Italy, October 1983
41st WMA General Assembly, Hong Kong, September 1989
48th WMA General Assembly, Somerset West, Republic of South Africa, October 1996
and the
52nd WMA General Assembly, Edinburgh, Scotland, October 2000

A. INTRODUCTION

1. The World Medical Association has developed the Declaration of Helsinki as a statement of ethical principle to provide guidance to physicians and other participants in medical research involving human subjects. Medical research involving human subjects includes research on identifiable human material or identifiable data.

2. It is the duty of the physician to promote and safeguard the health of the people. The physician's knowledge and conscience are dedicated to the fulfilment of this duty.

3. The Declaration of the Geneva of the World Medical Association binds the physician with the words, "The health of my patient will be my first consideration," and the International Code Medical Ethics declares that "A physician shall act only in the patient's interest when providing medical care which might have the effect of weakening the physical and mental condition of the patient."

4. Medical progress is based on research which ultimately must rest in part on experimentation involving human subjects.
5. In medical research on human subjects, considerations related to the wellbeing of the human subject should take precedence over the interests of science and society.

6. The primary purpose of the medical research involving human subjects is to improve prophylactic, diagnostic and therapeutic procedures and the understanding of the aetiology and pathogenesis of disease. Even the best proven prophylactic, diagnostic and therapeutic methods must continuously be challenged through research for their effectiveness, efficiency, accessibility and quality.

7. In the current medical practice and in medical research, most prophylactic, diagnostic and therapeutic procedures involve risks and burdens.

8. Medical research is subject to ethics standards that promote respect for all human beings and protect their health and rights. Some research population is vulnerable and need special protection. The particular needs of the economically and medically advantaged must be recognized. Special attention is also required for those who cannot give us or refuse consent for themselves, for those who may be subject to giving consent under duress, for those who will not benefit personally from the research and for those for whom the research is combined with care.

9. Research investigators should be aware of the ethical, legal and regulatory requirements for research on human subjects in their own countries as well as applicable international requirements. No national ethical, legal and regulatory requirements should be allowed to reduce or eliminate any of the protections for human subjects set forth in this Declaration.

B. BASIC PRINCIPLES FOR ALL MEDICAL RESEARCH

10. It is the duty of the physician in medical research to protect the life, health, privacy and dignity of the human subject.

11. Medical research involving human subject must conform to the general accepted scientific principles, be based on the thorough knowledge of the scientific literature, other relevant sources of information, and on adequate laboratory and, where appropriate, animal experimentation.

12. Appropriate caution must be exercised in the conduct of research which may affect the environment, and the welfare of animal used for research must be respected.

13. The design and performance of each experimental procedure involving human subjects should be clearly formulated in an experimental protocol. This protocol should be submitted for consideration, comment, guidance and where appropriate, approval to a specially appointed ethical review committee, which must be independent of the investigator, the sponsor or any other kind of undue influence. This independent committee should be in conformity with the laws and regulations of the country in which the research experiment is performed. The committee has the right to monitor ongoing trials. The researcher has the obligation to provide monitoring information to the committee, especially any serious adverse events. The researcher should also submit to the committee, for review, information regarding funding, sponsors, institutional affiliations, other potential conflicts of interest and incentives for subjects.

14. The research protocol should always contain a statement of the ethical considerations involved and should indicate that there is compliance with the principles enunciated in this Declaration.

15. Medical human research involving subjects should be conducted only by scientifically qualified persons and under the supervision of a clinically competent medical person. The responsibility for the human subject must always rest with a medically qualified person and never rest on the subject of the research, even though the subject has given consent.

16. Every medical research project involving human subject should be preceded by careful assessment of predictable risk and burdens in comparison with foreseeable benefits of the subject or to others. This does not preclude the participation of healthy volunteers in medical research. The design of all studies should be publicly available.

17. Physicians should abstain from engaging in research project involving human subjects unless they are confident that the risk involved have been adequately assessed and can be satisfactorily managed. Physicians should cease any investigations if the risks are found to outweigh the potential benefits or if there is conclusive proof of positive and beneficial results.

18. Medical research involving human subjects should only be conducted if the importance of the objective outweighs the inherent risks and burdens of the subject. This is especially important when the human subjects are healthy volunteers.

C. ICH GUIDELINE FOR GOOD CLINICAL PRACTICE

1. Clinical trials should be conducted in accordance with the ethical principles that have their origin in Declaration of Helsinki, and that are consistent with GCP and the applicable regulatory requirement(s).

2. Before a trial is initiated, foreseeable risk and inconvenience should be outweighed against the anticipated benefit for the individual trial subject and society. A trial should be initiated and continued if the anticipated benefits justify the risk.

3. The rights, safety and well-being of the trial subjects are the most important considerations and should prevail over interest of science and society.

4. The available non-clinical and clinical information on an investigational product should be adequate to support the proposed clinical trials.

5. Clinical trials should be scientifically sound, and described in a clear, detailed protocol.

6. A trial should be conducted in compliance with the protocol that has received prior institutional review board (IRB)/independent ethics committee (IEC) approval/favorable opinion.

7. The medical care given to, and medical decisions made on behalf of, subjects should always be the responsibility of the qualified physician or, when appropriate, of a qualified dentist.

8. Each individual involved in conducting a trial should be qualified by education, training, and experience to perform his or her respective task(s).

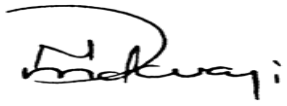
9. Freely given informed consent should be obtained from every subject prior to clinical trial participant.

10. All clinical trial information should be recorded, handled and stored in a way that allows its accurate reporting, interpretation and verification.

11. The confidentiality of records that could identify subjects should be protected, respecting the privacy and confidentiality rules in accordance with the applicable regulatory requirement(s).

12. Investigational product should be manufactured, handled, and stored in accordance with applicable good manufacturing practice (GMP). They should be used in accordance with the approved protocol.

13. Systems with procedures that assure the quality of every aspect of the trial should be implemented.

Full names	Ntombizodwa Julia Mokwayi
Student number	13394585
Signature	
Date	19 August 2021

ANNEXURE G

Dr Annatjie van der Wath (M Cur, PhD)annavdw@mweb.co.za

CODING CERTIFICATE

Qualitative Data Analysis

This serves to confirm that Annatjie van der Wath has co-coded the following qualitative data: 25 interviews for the study:

CHALLENGES FACED BY NURSES AND PARENTS TO FACILITATE PARENT-INFANT BONDING AND ATTACHMENT IN A NEONATAL INTENSIVE CARE UNIT DURING THE COVID-19 PANDEMIC

I declare that the candidate, Ntombizodwa Mokwayi, and I have reached consensus on the major themes and categories as reflected in the findings during a consensus discussion.

Annatjie van der Wath (M Cur, Ph D)annavdw@mweb.co.za

ANNEXURE H1

TRANSCRIP OF NURSES

Interview 1

Time: 19:55 02/02/2023 @ Steve Biko Hospital duration 06:51

Researcher: ammm

Research: good evening, Sr phage, how are you.

NP01: fine thanks and you

Researcher: thank you for volunteering and allowing me to come and see you, so I am doing a research study about challenges nurses faced during COVID-19 in facilitating bong and attachment. Meaning you we unable to facilitate bonding and attachment with mother for a period of time. For example, mother who tested positive were unable to KMC because we did not what was the outcome after that and also mothers that were coming outside because we did not know if they. we also not allowing mothers to remove they mask so that the babies could see they faces and all, so yaa. the research is about us to find ways or strategies to come up with more ahh I can say ideas or strategies that can help us in the long run if we can have something which is similar like COVID-19 that can affect bonding and attachment. Ayy. So, they will be few questions that I will be asking but the main question is about what the challenges are faced by nurses and parents to facilitate parent -infant bonding. According to you what are the challenges you had when trying to facilitate bonding?

Np1: personally, the challenges that I had was the one if the mom is positive the was no bonding at all and another one was if she is transferred from a unit, and we don't know the results then that mother can't come without results. This is what I saw that this two are eeeeh in the way of me as a nurse to enhance bonding in between the mom and the baby, as we know bonding goes a long way very important part of the babys development.

Researcher: For the points that you already matched, what do u think we can do or what could have been done to prevent may for mothers that are coming from outside and unable to see their baby because they were no covid test done, what do you think could have been done at that point?

Np01: I think personally, especially in the issue of bonding because is so key to the baby's development psychologically and all, is that every mom who is admitted and being pregnant, I know I could be expensive but it should be in such a way that all of them are tested so that we know for sure that this mom is positive or not, which will make it quicker for mom, when they admitted them as pregnant in labour or about to deliver they should test them before they could deliver. So that part cannot be interrupted of bonding.

Researcher: thank you, I'm just gone ask you three questions the other one is yes or not with a supporting answer neh. The first one is do you think is important for parents not to be separated from their babies in NICU?

NP01: to me is important because this baby was in utero attached to the mother with an umbilical cord ……and then if you separate them… through birth after that ,we know after delivery the baby we must put on the chest of the mom, that is the first step of bonding after separation of the cord, for me is yes is very very import to keep that bond there continuously , even thou we know we cannot do it continually but we should not break it all together

Researcher we should continue with continuity

Npo1: yes

Researcher: do you think parents with infant in the NICU were considered when applying COVID-19 rules regulation?

Nop01: shooo I remember… no, my answer is no, they were never considered … understanding the global pandemic the way it was, they were set aside anything had to do with bonding was not even considered, understanding the the the consequences of the contracting covid so they were never considered.

Researcher: What do you think are the activities we can do with covid in the picture that can ensure bonding?

Np01: as a nurse, a neonatal nurse I think to facilitate eee bonding as I said, mom whom we know are negative should allow them when they come in not to put on mask to expose their faces to their babies, only to their baby. We know how the distance how it travels and all those molecules of COVID-19 so for the baby we allow the mom to open their face to be able to bond with their babies that will also help.

Researcher: okay. In your view what do you think we can do or can be done to facilitate bong and attachment?

NPO1: as i matched in the previous question is that we should ensure mom who come to deliver we sure of their results so that we don't temper with the bonding session so it can continue from birth until mom is discharged.

Researcher: thank you very much Sr phage I think all question were answered aaaahm, I am not going to ask other questions because when you were answering the are question which you answered, points you were saying, so I cannot repeat same question as now the questions are similar. Thank you for giving me you time.

Npo1; I'm glad and I am hope you make it with your studies

Researcher: thank you very much(smile)

Interview 2

25 February 2023 @ 09:55

Researcher: thank you sister Makhado for giving me time and allowing us to do the interview.

The main Question is what are the challenged faced by nurses and parents to facilitated parent-infant bonding and attachment in the neonatal ICU during COVID-19 pandemic. So, they will be few questions that I will ask you to follow up on the main question neh.

Researcher: tell me what do you think were the challenge that prevented bonding and attachment in the neonatal ICU during COVID-19?

NP2 : Aaah OK thank you for doing this interview with me , well one of the challenges was we could not allow mother to come to lodge as we used to do before COVID-19 .so during covid1-19 they were not allowed to lodge which was one of the challenge cause now the mothers and babies were separated which was not good for the recovery of the baby.

……Np02 throat clearing….

Researcher: so, tell me what do you think could have been done to facilitated bonding and attachment in the neonatal ICU?

Np01: aaah I think because there was a backlog with the covid -19 result testing , maybe they could have been a rapid testing for mothers if she delivers today we could have tested her then when the results a negative she could have gone straight for lodger, so that was going to be easy since she is in the lodger facility we were sure that she was not going contact covid unless it was otherwise, but if …the mother was around, she was going to be frequenting in our unit, because we could have known that she is covid negative. So, think that was going to work even for the babies.

Researcher: do you think is important for parents not to be separated from their babies?

Npo2: it is very important, as a mother child friendly hospital we believe that the mother should never be separated from her child unless she is very ill or what, but because of COVID-19 they were separated which I don't believe is good for the baby from the first place that why I talked about rapid testing, if we could have sticked to rapid testing them they were going to be around they baby

Researcher: do you think parents with infant in the neonatal ICU were considerate when applying covid -19 rules?

Nnp02: no no no they were totally not considered, because if they are considerate, we should have thought about may a mother being around full time it is not the whole family, ahhh they were not considered really, they were not.

Researcher: what is the activity we could have done to allow parents to bond with the babies?

Np02: like I said before rapid testing was one of things , I think it was gone solve most of our problems during covid -19 because if the mother was rapid tested got the results sometime then we decided if we still have space at the lodge facility then mother straight away she goes to lodger then she was gone give us milk ever now and then , even with her the stress level will go down , ok I see my baby now and then , I think that was going to help. And again, when the mother is around, she was going to do KMC every now and then unless maybe is contraindicated because to babies conditions but if it wasn't for that, the baby was going to bond with the mother by doing KMC because we're going to allow her maybe for 45 minutes after feeding to do KMC with her child ever now and then, when she comes.

Researcher: thank you Sr Makhodo, they are two last questions that we need to answer then we come to the end of our interview.

Researcher: tell me how did COVID-19 restriction make you feel?

Np02: to me it made me feel distressed, because you are caring for this baby , we never saw the mother it was a c/section then the mother is discharged home after she was tested and she comes back after 5 days , because there was a backlog with COVID-19 results, so for mw it was like ….there is this gap that we creating between the mother and the child which was not good so it always make me feel distress to say we not doing good for this baby and the mother.

Researcher: do you think we could have put more visiting allowed for parents?

Np02: ya but it goes back to rapid testing, if maybe even for the father we were going to test him maybe once to allow him only for that day to allow him to see his child , it was going to be

better because for somebody who has seen the child and somebody who has an imaginary picture of how is the baby he will support the mother better if he has seen the child, now you know what is going on there than to someone who has never seen the child, so I feel like if we have given the father a chance by rapid testing him maybe of a day maybe once in two weeks to come and see the baby for that day nit was going to be much better for the three of them , the baby mother and father.

Researcher: thank you sister Makhado for allowing this interview we come to the end of our interview

Np02: you are welcome, thank you.

Interview 3

5 February 2023 @ 08:22

Researcher: good morning sister Malebye how are you

Np03; I am fine and you

Researcher; I'm good.

Researcher: aaaam thank you for volunteering to be part of my research study, so the main question that we had is that what are the challenges faced by nurses and parents to facilitated parent infant bonding in the neonatal ICU during COVID-19 pandemic,

Researcher: so according to your view, what is it that we can do or any action that we can do that will make it easy for the parents and baby to bond at the time of the COVID-19?

Np3 so we can start? Can I start.

Researcher: yes, you can say anything, you can start, I will record only the nonverbal.

Np03: okay so during the pandemic it was a new thing, so we were not prepared for it. So, we started by doing things then we were changing as time goes on. like at first it like a shutdown, the country shit down but delivering of babies continued so we had to nurse those babies during the pandemic so as parents were not allowed to be …. they were not allowed to stay at the hospital, though we had a lodger the lodger was closed when the covid pandemic started like 1st of April. was it April ,ya from April the lodger was closed as a results ya as the results ,it was very challenges because sometimes like when the child is critical you need the parents nearby so parents see that you trying everything because sometimes when the parent is not here and you just call or sometime you would call and you don't get the parents when the child.. when you really really need to talk to the parents because were unreachable physically so, we can only communicate with then.

Researcher: so, tell me what is it that we should have done to facilitated or make it easy to be facilitated bonding and attachment?

Npo3: I think testing of mothers, timely testing like … I don't know if it could have worked but timely testing like before coming into the delivery room, testing them beforehand but it was difficult because some time, they just come when they are…. Just at the eager of delivery but there is nothing we could have done soooo….. is difficult (smiling)

Researcher: ok. Do you think is important that parents are not separated from their babies ant tell me why?

Np03: it is because sometimes separating a mom from a child you are distressing mom and bonding is like compromised because a sick especially a sick neonate it needs a mom there because sometime mom and baby they bond during pregnancy , like the talk and now the bay is born with difficulties they bond is terminated is like we terminated the bond and we stressing mom because the child is sick and now the child is left alone with the nurses. Like…….

Researcher: do you think parents with neonate in the neonatal ICU were considered when doing COVID-19 rules?

Np03: no, they were not

Researcher: tell me what you think they should have done?

Np03: I think parents, firstly they should have …what is the word to use. 7they should have been excluded from the covid roll call, because we were the same, they were a circular that everyone must go covid 2 and work there but if you had a neonate at home or a few months old child can your imagen, going there and exposing yourself, then going home to breastfeed and the fear in you, everyone was afraid during covid. the fear in you and the fear of giving covid to the child like……

Researcher: and do you think ammm, the application to neonatal ICU as a whole, did they consider the neonatal ICU when they we making covid -19 rule or the were making it general?

Np03: it was just general; it was just general because there was no specific protocol for the neonate unit was the whole hospital protocol.

Researcher: okay as a nurse what do you think are the activity that we can ensure bonding is not broken if COVID-19 may return or similar pandemic?

Npo3: okay like for now, we have lodger parents are testing and even in the covid unit they have, after some months they have a unit where they keep, they mom and babies together. When the mom test positive they allow the baby to stay with the baby as long as the baby is not sick. And there is a lodger facility which can be used to allow mothers to visit.

Researcher: okay in your view what do you think we can do to facilitated infant parent bonding during COVID-19?

Np03: okay what can be done, is allowing parents to stay because even some of us, I mean it was …. Nah in my view it was very crawl to shut the mothers out, while I as a nurse I will go home and come back, why can't the mom come and see the child, I think allowing those moms to come and see they child, like using precautionary measure not shutting them out altogether.

Researcher: I am ging to ask you two last questions 1st how did the covid 19 restriction make you feel?

Np03: restriction like …. i felt like our government were being crawl (laughing)…. I felt like they we crawl to the moms and us as nurses. Ya…

Researcher: okay, so what do you think we can put in place to allow more frequent visiting by parents np03: by parents

Researcher: yes, you remember during that time parents where no visiting , so what can we do , we trying to change if something similar can come what can we put in place to allow frequent visiting hours?

Npo3: like for neonatal unit nehh…I think what we can do is to have a… a barrier like a glass barrier, where parents can come and see their children, like when mom test positive they came come and see their child though that barrier even if they don't visit physical alike allowing them to see their babies

Researcher: thank you sister Malebye for your time

Np03: thank you.

Interview 3:

Researcher: good morning sister Matseke how are you?

Np04: well thanks and how are you?

Researcher: fine. Thank you for volunteering to be part of my study ahhh the main question of the study is what are the challenges faced by nurses and parents to facilitate parent infant bonding and attachment during COVID-19 in the neonatal ICU? What is it that made then unable to facilitated bonding and attachment?

Np04: firstly, it could be ill health, sickness. You find that the parent can get sick and maybe be hospitalized or maybe be quarantined and then the bonding is going to be distracted and the family role as well is going to be affected.

Researcher: so now tell me what do you think are the challenges that prevent or hinder bonding and attachments in the neonatal ICU DURING COVID -19? What is the challenge that prevent action of bonding and attachment?

Np04: the challenges were several challenges; you find that parent is not in the hospital and not allowed to come during covid or delay of results. May be parents took covid test and may be having delay of the outcome of covid also interrupt the bonding because the neonatal cannot bond with the mother and another it was also the problem of starvation; you find that the mother can't reach the hospital to provide with EBM then lead to baby to have shortage of milk as well.

Researcher: okay for the things that you have mentioned, what do you think we could or can do /use to facilitated bonding or improve bonding, like you mentioned the fact that result not coming early or parents not having results, what is it we can do to allow bonding to happen at that time.

Np04: maybe the swapping of covid maybe they prioritize like if you are a neonate's mother, you must be prioritized at the lab so your results can come out early so that you can continue with bonding.

Researcher: okay so aaaa do you think is important not to separated parents from their babies and why?

Npo4: yes, the parents should not be separated from their babies because as we have said about bonding if we separate parent from the baby, we are promoting the problem of separation and we are no longer going to facilitate bonding efficiently, so I think parent must not be separated from their neonate babies.

Researcher: I want to take you way back when the covid rules were… put in place neh. Do you think parents with infant in the neonatal ICU were considered when making the COVID-19 rules?

Np04: repeat again.

Researcher: do you thin parents with infant in the neonatal ICU were considered when planning or writing the covid -19 rules?

Np04: I think they were not included as much because if you a mom and the baby is a transfer from another hospital came here the mom has to follow the procedure of swapping here and go home again wait for the results, I think they were not considered when the do covid rules

Researcher: okay what do you think are the activities we can do as nurses to help parents and their infant to bond?

Np04: the activities we can do, I think to follow the protocol of COVID-19 like wearing of mask, having rubbing hands with alcohol frequently and we have to provide this mother with alcohol spray and masks as well so that we can minimize this spread.

Researcher: in your view neh. What do you think can be done to improve bonding?

Npo04: ya to improve bonding I think if the mother in my view we should speed up the process of testing. mother must be the priority if they are taking swap their rests must come early as 6 hours' time so that we can facilitate the bonding as well as if the mother can be tested and maybe found negative can be allowed as quick as possible to the hospital to bond with the baby

Researcher: thank you sister Matseke, I have two last questions for you neh.

Researcher: this one is about the way you feel, tell how COVID-19 restrictions make you feel?

Npo4: the restrictions eee, I was not comfortable with the restriction at all, sometimes you find that you not allowed to even see your loved once.

Researcher: okay. what do you think we can put place to allow more frequent visiting hours for parents during COVID-19?

Np04; to increase visiting hours, make stop three hours to six hours to minimize the outside contact in neonate and emphasize more on preventative measure to control covid 19

Researcher: thank you Sr Matseke

Npo4: you welcome.

Interview 5:

5 February 2023 @ 08:24

Researcher: good morning sister Sekati, how are you?

Np05: am good and how are you?

Researcher: thank you for volunteering in my study neh

Np05: okay

researcher: okay I'm going to start right ahead with the questions. the main question is what are the challenges faced by nurses and parents to facilitated parent infant bonding and attachment during COVID-19 in the neonatal ICU?

So, when we say facilitate we regard action or process that can make thing easier.

Npo05: ok

Researcher: so, what is it that can make things easier for parents in bonding and attachment during COVID-19 according to your view

Npo3: what I think is , I think is it very important to keep the mother and the baby to bond even though the mother is covid -19 positive ,it is needed because the baby needs to gain weight immediately if there is no bond between mother and the child especially skin to skin, that mean the baby won't grow the way doing skin to skin. I think even though the mother is COVID-19 positive, or the baby is COVID-19 positive I think they should continue with skin to skin, if they get treatment, they will get treatment both of them. So, we won't like or give the baby opportunity to bond with the mother, do you understand, I don't think the COVID-19 it has to be something that it stops that skin-to-skin attachment with the baby.

Researcher: tell in this unit what are thing that prevent bonding and attachment during COVID-19?

Np05: what are the things that…

Researcher: what are the challenges that prevented bonding and attachment during COVID-19 pandemic? Like what is it that made it difficult for us nurses that made it difficult to help mother to bond with baby.

Npo5: okay okay it is because they were rule that the mothers are not supposed to come to the baby ,they were not supposed to bring the milk, as you understand that the babies gets the mother's milk is going to bond though breastmilk and prevent NEC condition , it was so difficult because the rules has to be made that the parents are not supposed to see their kids , the doctors was supposed to take pictures to send the parents , so the was no bond between the mother and the babies and that was so difficult.

Researcher: so, what so you think us as nurses we could have do to facilitate or come up with an idea that can help in the attainment and bonding?

Np05: aaah that why I am say this for me it was (clearing throat) okay I think it was something that delayed the babies to grow because even though they stopped the mothers to come to see the babies , they provided milk to the milk kitchen , we don't know how is that milk is it COVID-19 positive because they touch the milk and everything and the cup and everything then they took milk to the milk kitchen then it came to the babies ,I think they should have leave it the way it was the mothers come with the milk and bond with their babies if they are covid positive they will get treatment both of them and be well..

Researcher: okay. Do you think is important not to separate baby from their parents? If yes or no, why?

Npo5: I think the parents and the babies are not supposed to be separated because when they are separated, they won't get that bond, it feels good as baby to be with the mother, and it feels good also for the mother to be with the baby and enjoy her motherhood. yes

Researcher: tell me ahhh what do you think eee covid-rules according to your view, do you think they considered the parents and the neonate when making covid rules?

Npo5: no, they didn't.

Researcher: why do you think so?

Npo5: because they separated the mother and the baby yes.

Researcher: so so basically your saying bonding was delay or child couldn't grow well because they could not do KMC.

NP05: YES, the skin to skin especially the premature, they need skin to skin to grow.

Researcher: okay okay. what do you are the activities that as us nurses can do to facilitate bonding and attachment, ensuring that bonding is there? What is it we can do? To help the mother and the baby to bond.

Np05: to be honest I will encourage the mother to keep on breastfeeding and to do skin to skin is very very important that one

Researcher: so, do you think ahh parents were able to do those activity during covid?

Npo5:as the rules. They were rule that they are not supposed to do that according to me it was, it will make things easier if they allow them to bond or to see each other.

Researcher: it that time they didn't allow these activities how did it make you feel that they didn't allow this activity to be done?

Npo5: (deep breathing) it made us feel somehow but the is nothing we could do because they were rule and we won't break those rules that they are not supposed to come.

Researcher: so, in your view generally what do you think we can do to improve bonding?

Npo5: I think it will be much better if they wanted our options, like other people when they do the research and everything so that they know how as nurses how we are feeling about this thing so that we can give them our import, how we understand the mother and the child things.

Researcher: okay, it about you tells me how covid -19 restrictions make you feel?

Npo5: in the hospital or in general?

Researcher: in general.

Npo5: I think it affected me aaaa very much because there are other things we couldn't do as human beings we were not allowed to do and also in south Africa lot of people lost their jobs and also most people lost their life's, it affected lot of people. Yes

Researcher: what do you think we can do to allow more frequent visiting hour for parents to see they babies during COVID-19?

Npo5:I think the way it was 3 hourly was not that bad, because you know that immediately when the mothers come they going to feed their babies and know they babies very well and provide breastfeeding the baby, even 3 hours is still fine.

Researcher: thank you Sr Sekati we come to the end of our interview and thank you to giving your time.

Npo5: okay

Interview 6

5 February 2023 @ 08:2

Researcher: good morning sister Ngwenya, thank you for allowing me to come and doing this interview with you.

NPO6: yes, thank you very much and good morning to you too.

Researcher: thank you, we going to start with our main question like what are the challenges nurses faced to promote parent infant bonding and attachment in the Neonatal NICU during COVID-19 pandemic?

Np06:eee the first challenge was that mother were separated from baby like for example if the baby was covid positive the mother was not allowed and the babies were isolated and only seen by the nurses, and then, so , as such the baby was separated from the parents , then more worse only the mothers at that time were if the baby pre-diagnosis the parents were , the mother was the only person allowed in and the father was not allowed inside and that created a space or what do you call it , between the mother and the baby. And the other thing is that , if the mother is positive , that time I was talking about if the baby is positive is taken in to an isolation and is only nursed by the nurses, and now if the mother is positive the mother is never allowed in to come and see the baby and that created lack of bonding between the mother and the baby and at that time also we are a baby friendly hospital we could not get a EBM milk from the mother so at that time baby had to start with donor EBM if is there or formular milk so COVID separated or it made it difficult for the mother and the baby to bond.

Researcher: thank you very much, and aaaa, you mentioned few things so what do you think we could have done at that time as neonatal nurses could advocated for the parents, what could we have done to avoid the separation that you were talking about.

NPO6: Remember covid when it came it came like ablow to everybody there was no time to make proper rules so aa there was no time but if now because we saw what it has done maybe if it comes again they should be proper rules that are set there, so what we could have done at that time to promote bonding ,maybe when we isolated the baby or isolate the mother we must have aa proper same or isolation room for mothers and babies that are positive, if the mother positive with the baby there, if the baby positive allow only the mother to stay in the isolations rooms, I think that could have worked, otherwise you have isolated them from other people but may if we had aa isolation rooms for them only.

Researcher: okay, do you with is important for parents not to be separated from their babies?

Np06: is it important for them not?

Researcher: not to be separated?

Np06: is very very important especially with babies we are encouraging attachment and bonding and it is very important because we want, as I said we are a baby friendly hospital , it was very very important, EMB to us is a crucial and a very important eeeee substance or what for prevention of infection , promotion of bonding mother and child, for mom also see to learn a lot from babies, ya so it very very important for mothers and the mother it's very important because at that time in the hospital it's easy for nurses and doctors to teach the mothers and also to understand their babies conditions and to remember premature babies is only us nurses who can see or not afraid of premature, most mothers they are very afraid it a new thing to them so you need a mother to come to be in and out, most time give the mother extra time so they get used to and they get to bond with their babies, I don't know.

Researcher: OKAY, do you think parents and infants were considered when making covid rules?

Npo6: as I said early when covid just came like a boom so the rules where not properly made so I can say they were not considered.

Researcher: okay. So do you think there are any activities that we could have done to make it easy for parents to bond with the babies

Npo6; I think think questions repeat itself, because I sat yes, they could have been isolations room specifically for positive mother and a child to stay together.

Researcher: okay, we have two last questions, tell me how did COVID-19 restriction make you feel?

Npo06: the restrictions really affected us as nurses to start with we were all afraid , sometimes the PPE itself is uncomfortable , sometimes it was and the isolation of it also , what I have realised myself as a person if you nursing covid positive child there is a lot of aaaa , I don't know whether to put it as stress or confusion to children because we tend to nurse bigger children, the child becomes confused she doesn't know what to call you , you are a nurse next time when so body comes in is your mommy ,she doesn't know next time is a doctor or what ? , it also made us feel very very bad and even us it affect us with our families when you go home they are scared of you, you don't know how to held the families itself, so it was very very scarry , it also affected us in this way aaaa the isolation, most of us were affected because we contacted covid , you don't know if you contacted it in the ward or at home and whatever infection you got you take it home you are not sure whether you are the one who is infecting them or what , and on top of that there is no treatment for that , we were only treating symptoms and signs of whatever you present with so it did affect us.

Researcher: so, what do you think we place to allow more frequent visiting hours for parents to see their babies?

Np06: as I asked also am still going back on that we could have isolated them and to me I think we should have allowed the fathers also to come in, they were not coming in as such the mother doesn't have support system at all and then you also separating the mother, the father and the baby. It was very scary but if there was an isolation the father could have been allowed in, I think that its

Researcher: thank you very many sisters Ngwenya for you time I appreciate it, thank you

Npo06: thank you.

Interview 7:

25 February @ 09:40

Researcher: good morning sister Tabane how are you.

Np07: good doo and you.

Researcher: am good

Researcher: thank you for taking you time to be part of my study I appreciate it. Our main question will be what the challenges are faced by nurses and parents to facilitate parent -infant bonding and attachment during COVID-19 in neonatal ICU. but there is question that that are broken down, so it easy for us to answer it. neh

Npo7; okay

Researcher: I am going to start with one question, our question say: tell me what do you think are the challenges that prevent bonding and attachment during COVID-19 in the neonatal ICU?

Npo7: what are there?

Researcher: what are the challenges, factors that made it difficult for parents to bond and attach with their babies.

Npo7: first I think is eeeee, the parents where at home and they are in contacted with lot of people, so we could not risk the fact that they come and room around like they used to because you know our babies they immune system is very very weak so I think this is one of the reasons, because they are in contact with lot of people outside we could not have let them room in.

Researcher: okay, what do you think we could have done to assist parents to bond with their babies?

Np07: okay if we were doing a proper screening maybe that would have help and maybe regular testing of the covid when we admit mom at the lodger side.

Researcher: okay, do you think is important for parents not to be separated from their babies? If yes, why and if not why?

Npo7: repeat the question again.

Researcher: do you think it's important for parents not to be separated from their babies.

Np07: yes, it is

Researcher: And why

Npo7: because most of our mother here struggle with their milk so the more the bond with their babies the more production becomes good and easier.

Researcher: do you think parents with babies in the neonatal ICU were considered when creating the COVID-19 rules?

Npo7: I don't think they were considerate.

Researcher: why do you think so?

Np07: because aaaa let me put it this way maybe because of the scare and the rate the COVID-19 …… (districted by someone opening the door and talking) think because of the disaster it clouded their judgement who ever made the rule and everything, because of the disaster,

Researcher: okay, what do you think are the activities we could do to help the baby and mother bond?

Np07: the activities?

Researcher: yes

Npo7 kangaroo the baby

Researcher: okay AND aaaa we came to the of our interview, there are just two last questions that you need to answer.

No7: okay

Researcher: tell me how did covid restrictions make you feel?

Npo7:(deep breathing) hmmmm it was very frustrating and stressful because I am originally from northwest now, I was locked up in Gauteng I was missing my family even do there are video call and everything, but it was not enough, so it was frustrating and stressful.

Researcher: okay. Do you think we can put in place the allowance of more frequent visiting hour by parents?

Npo7: mmmm I think that one is very tricky because what they have put in place works better. Or may could you repeat the question again.

Researcher: do think we can but allowance more frequent visiting hours for parents during covid -19?

Npo07: oooh okay, it tricky. it was easy for the mother because they had lodger but for the fathers since they are coming home, we don't know who they were in contact with.

Researcher: thank you sister Tabane

Npo7: you welcome.

Interview 8:

07 February 2023 @ 10:04

Researcher: thank you sister Mawela for giving me an opportunity to come and interview you, I really appreciate it that you volunteer to be part of the study.

NPO8: okay

Researcher: okay, we just going to ask few questions, other questions are repetition. The main focus we are talking about what are the challenges faced by nurses and parents to facilitated parent -infant bonding and attachment during COVID-19 in the neonatal ICU.

Researcher: our first question, tell me what are the challenges that prevented bonding and attachment during covid 19.

Npo8: during the covid -19 period it was difficult for mothers to bond with their babies because you will find mother scared what if I am positive cause sometime you would find they would be false positive ee COVID-19 results and they will be scared to pass the virus to them , not knowing that if they test is negative and then probably they still negative they just scared, you would find them they won't want to breastfeed tested or express milk thinking that the virus would pass though the milk , so it was actually a challenge for the babies because some of the mothers will be admitted for long period of time, they won't be able to see the baby will see them after weeks then the bonding stage 0-certain days is actually disrupted.

Researcher: okay what do you think we could have done at that moment to facilitate parent -infant bond?

Npo8: huuuuuuuh eeee as parents some of them they were , grandparents were not coming , but I think if the fathers would come more because of the mother are still in pain some are still scared at least if the father were available to come and facilitate the bonding , come with the milk and do the changing of the baby at least that bonding with the dad is much better not having a bond at all.

Researcher: do you think father were allowed at that time.

Npo8: yes, there was a period where they said mothers and fathers but after a certain period. But there was a time where they were no visitors but if only they could have given the father a chance but due to this covid it was difficult, at some point we had a low rate of baby admitted , so there we less rate of babies being admitted at less if there was enough space for social distancing in the unit they come mothers and daddy's , if the mother not there at least the father to come

Researcher: basically, you are saying that if there was enough space social distancing

Npo8: yes

Researcher: okay, do you think is important for parents not to be separated from their babies?

Np08; yes

Researcher: why?

Np08: because babies need their mothers , even if we are nurse or sister nursing the baby at the end of the day they go back with their parents at home, so let them start bonding with their kids while they still in hospital to give at least a certain health education to the parents not to just let them go think that they will know everything by themselves , they may know but still need that education.

Researcher: do you think COVID-19 rules when they were planning them, they considerate the parents and the neonate?

Npo8: no

Researcher: why do you say so?

Npo8: because it was manly ……. how to put it …. it was protect the once that are note infected and cure the once that are infected so aaa, so that is easier for the once who were not infected by the virus to be more healthy but now forgetting that there is that part where mother needs to bond with their babies and you find that the mother is admitted in postnatal and they suspect that the mother is positive , now the mom can't come , they just running tests and that time test would take time to come back due to the backlog , so ya it was bit difficult and it was (with a sad face and facing down)

Researcher: at that time what do you think were the activities that would allow parents to bond and attach with their babies, like for example you talked about blood results that took time to come out. So, what do you think we could have done?

Npo08: I dint know how to respond it was a very stress moment, because if the mother would cough or sweat not even underlining other issues they would say it covid so I don't know how put even suggesting taking the baby to the mother it was it was another problem , because we could not take the baby to the mother, what if the mom is really positive you actually exposing the child to the mother and the virus, if new knew about this virus way back maybe they should have been a room where there is a glass separating , then the mothers will be that side seeing their babies and identifying their babies even though they won't be any contact but at least knowing this is my baby , my baby still alive have hope.

Researcher: thank you sister Mawela we came to the end of our interview, but they are two last questions to ask.

Npo8; okay

Researcher: tell me how did COVID-19 restrictions make you feel?

Np08: yooo it made me feel bad I don't want to lie, it cut lot of aa social activities in my side, oooo,I am a person who always visit my mom most of the time, even if is the weekend or two days off I would go anytime but due to that period I could not see my mom we could only do video calls but that was not enough, not seeing other people eee and not seeing my family is was very difficult. And at the point you think maybe your positive luckily I didn't get any eee I wqs not tested positive any of this virus but still in the back of your mind you working in the hospital , what if you are a carrier and you go home with it then you infect your parents , then your parents get sick and die, so it will be as if is my fault, ya it was difficult.

Researcher: ok, then back to the patients neh. So, what do you think we could put in place to allow more frequent visiting hours for parents?

Np08:we have different types of visitation in our unit but due to covid I think we could have made aaaa something maybe giving mother time , they could not come at the sometime, then we could have said the first four can come in and spend the time and not have , just have flexible hours of visiting than before we should not limit to the time of feeding like the 2 hourly , hourly visits after 2 hours at least now to make it more flexible , they can come but as long as we have 4 parents , mother and the dad in the unit , then after certain hours again, not to be stick at the time at least expanding the time of visiting in the unit it was going to be better .

Researcher: thank you sister Mawela for taking time, appreciate it

Npo8: you welcome. I hope I answer you well

Researcher: yes, you did

Npo08 : thank you

Interview 9:

25 February @ 09:22

Researcher: good morning sister Lerato how are you

Npo9: fine and you

Researcher: I'm good, thank for volunteering to be part of my study, aa our main questions is what are the challenges faced by nurses and parents to facilitate parent infant bonding and attachments during covid 19 pandemic in the neonatal ICU? Question will come out from this main question.

Npo9: okay

Researcher: so, tell me what do you think are the challenges that prevented bonding and attachment in the neonatal ICU during COVID-19?

Npo9: during COVID-19-time mother were not able to come and visit so it prevented lot of bonding because they couldn't come they just phone to get the information about their babies, so there were no bonding between parents and their babies.

Researcher: so, tell me what is it that we could have done to facilitated bonding and attachment during COVID-19?

Npo9: mm I think they could have given even maybe half the time they used to come and visit, to just spend time with their babies, but we understand that it was a pandemic, but I think time could have been done

Researcher: do you think is important not to separate parents from their babies and why?

Npo9: no it is very important for parents not to be separated from their babies because if there is no bonding the mother and the child do not bond they don't not see the feeding cues of the baby, they do not see the growth of the baby so if thy here with the baby as specially because most of our babies are premature baby is important to do kangaroo care so if they are not here is quite difficult. It delays the growth of the baby and also for the feeding most of the babies ended up being given formular and we know that formular is not good for everybody.

Researcher: okay, do you think parents with infant in the neonatal ICU were considered when applying covid -19 regulations. if yes or no why?

Npo9: (shaking head) nnn no I don't think they were considered because at that time they were just looking at the pandemic and they were not looking at the benefits of the baby so I think it was not considered at all, because I think they still should be given a small time to bond with their babies. They would just take precautionary measure just to make sure the baby doesn't get COVID-19.

Researcher: what do you think are the activity that can be done to allow parents to bond with their babies?

Npo9: mm I think the visiting hours should be revisited and I wish the lodger facility or the KMC facility was closer to the NICU so that mothers are able to see their babies more often.

Researcher: we came to the end the interview they are two last questions

Npo9: okay.

Researcher: tell me how COVID-19 restriction made you feel?

Npo9: mm it was really frustrating because we had to do everything for the babies , struggling with milk because the mother is not here, we struggling to give mother information because they are not allowed to come to the hospital so it was a bit over warming as especially now that even people were afraid to the unit even the people working in the hospital were afraid to come to the NICU, even if you had so things to discuss they were not able to come to the unit. So, for the parents shame it was, most of the mother would call or get a call from the hospital but with attachment they were none whatsoever, so in that way I think it took a lot of bonding and attachment away from the babies and the parents.

Researcher: this question you have answered it, but I am just going to repeat it because we recording, what do think we could put in place to allow more frequent visiting hours for parents?

Npo9: I think the lodger facility and the KMC facility should be closer to neonatal unit so that the mothers can be there to breast feed all the time to learn how to change nappies and to be able bond with the mothers , so now the disadvantage is that the lodger facility is very far so it take time to come here and then given only an hour in the unit so if the hours are extended then they can spend most of the time here.

Researcher: thank you sister Lerato for taking time and being part of my research, I appreciate it.

Npo9: thank you

Interview 10:

24 February @ 20:10

Researcher: thank you siter Madondo for allowing me time to come and interview you.

Np10: okay

Researcher: sister Madondo are main question is what the challenges are faced by parents to facility

Parent infant bonding and attachment during COVID-19 pandemic in the neonatal ICU? I will start with my first question. Tell me what re the challenges that prevented bonding and attachment in the neonatal ICU during COVID-19? You can start thinking 2020 until locked was stopped.

Np10: repeat the question.

Researcher: any challenges we as nurses had during COVID-19 in making sure that mother bond with their babies and attach.

Np10:it was so difficult for mothers to attach to their babies because they were not allowed to come to the ward.

Researcher: what do you think it could have been do at that point to allow parents to bond with their babies, what is the strategies that you could have come with,

Np10: at least the mother they we supposed to re allow them to come once maybe coming in wearing the attire that were wear at covid ward.

Researcher: do you think it is important to for parents to be separated from their babies and why

Np10: yes, to create bond between mother and child

Researcher: okay, do you think parents with infant in the NICU were considerate when making making COVID-19 regulation rules, do you think the rule covered the parents and the child?

Np10: yes

Researcher: what are the activities that we could have done in order for mother and baby to bond.

Np10: we could allow parents to come and see their babies while wearing PPE and washing of has also so that they can hold their babies and KMC, we could have also allowed them to take off the mask when communicating with the baby so they can recognise they parents face.

Researcher: there are two more question then we at the end of our interview. tell me who did COVID-19 restriction make you feel.

Np10: I was so frustrated thinking of leaving the job.

Researcher: do you think we could have put allows of more frequent visiting hours for parents?

Np10: no because the law didn't allow.

Researcher: thank you sister Madondo for giving me time

Np10 thank you.

Interview 11:

24 February @ 19:59

Researcher: good every sister Mawela, how are you

Np11: good evening sister Zodwa

Researcher: thank you for volunteering to be part of this study, I am not going to take such of you time, the questions are straight forward.

Np11: okay

Researcher: the main question is what are the challenges faced by nurses and parents in facilitating parents -infant bonding in NICU during COVID-19? There are question coming out from the main question

Np11: Okay

Researcher: tell me what do you think are the challenges that prevented bonding and attachment in the NICU DURING COVID-19?

Np11: During covid, problem number that we had , visitor were not allowed and some of other mothers were not admitted as lodger mothers , so in that way they could not have time to bind with their babies because under normal circumstance mothers are allowed be with their children so that they are thought how to care for their babies now that we are encouraging kangaroo care, so with covid we didn't have chance to do so.

Researcher: okay, tell me what could we have done to facilitate bonding and attachment in the NICU DURING COVID-19?

Np11: I will have to think about that one, skip lets go to other one then will come back to that one

Researcher: okay do you think is important for parents not to be separated from their babies?

Np11: yes, it is, because now during the care of the baby the baby is gone stay long in the NICU, mothers need to be thought how to care for the baby while they still in ICU, because the baby will be taken to high care then further to kangaroo ward for monitoring the growth of the babies.

Researcher: do you think parents with infant in the neonatal unit were considered when making COVID-19 rules?

Np11: I don't think so they were considered because now the only thing the thought at the time was just to contain the virus, so it does not spread, most of the thing were not considered.

Researcher: so now what do you think are the activities we could have do to facilitated bonding and attachment?

Np11: if thing were like before, now that this it was a deadly virus, we could have have taken the part of the mother maybe sometimes you Could have Kangaroo the baby, but because of the nature of the virus even that we could not even do that.

Researcher: we came to the end of the interview but there are two questions that I need to ask you.

Np11: mmm

Researcher: tell me how did COVID-19 restriction make you feel?

Silence……

Np11: it was bad in such a way that there was no interaction, whether at work or at home

It was bad, because they were this separation so you could not interact as we normally do due to these restrictions and with far of spreading the virus and not getting the virus.

Researchers: what do you think we could have put in place to allow more frequent visiting hours by parents?

Np11: maybe we could have allowed them to come like in our ward we don't have the normal visitation hours like in other units in the hospital, maybe that one should not been taken aways as they did because now by doing so, they took all the interaction with baby for not allowing parents to come at all. I think they should have sticked to the visitation we were doing normal before covid.

Researcher: back to the question skipped. tell me what could we have done to facilitate bonding and attachment in the NICU DURING COVID-19?

Np11: Allowing parents to visit: Implementing measures to allow parents to visit their babies in the NICU while following appropriate safety protocols. Kangaroo Mother Care (KMC), Ensuring effective and regular communication between healthcare providers and parents. This can help parents feel involved in their baby's care and provide them with updates and information to alleviate anxiety and promote attachment. Utilizing technology to facilitate virtual visits between parents and their babies in the NICU. This can involve video calls or other platforms that allow parents to see and interact with their infants remotely, Emotional support, Education and guidance and Recognizing parents faces

Researcher: that you sister Mawela for taking time in answering my question.

Np11: thank you

Interview 12:

23 February 2023 @ 19:53

Researcher: good evening sister Mokwena, thank you for taking time to allow me to interview and to volunteer to be part of my study.so our research is about challenge that we faced by nurses and parents in facilitating parent infant bonding and attachment during COVID-19 in the neonatal ICU? There are questions that are from the main question.

Researcher: tell me what do you think are the challenges that prevented parent infant bonding during covid in the neonatal ICU?

Np12: problems like and bonding of?

Researcher: of mother, like what were the challenge that prevent us allowing parents to bond with their babies.

Np12: the thing is we did not allow fathers to come and see their babies, so for me they were denied chance to bind with their babies while they were still here.

Researcher: okay, what is it that we could have done to facilitate bonding and attachment?

Np12: maybe if we could have reduced visiting hours for the father maybe at least once a day instead of denying them

Researcher: okay. Do you think it is important not to separate babies from their parents and why?

Np12: yes, because if you separate them bonding will not take place, the child become more attached to the person she/he spend time with. So, to encourage bonding and attachment then parents need to see their babies and touch them.

Researcher: okay do you parents and infant in NICU where not considered when making COVID-19 regulations rules and why do you say so?

Np12: they were considered because we were avoiding infection so for me, we give child priority.

Researcher: okay, eeee my going to ask a question this one is about how you felt during COVID-19, tell me how COVID-19 restriction made you feel.

Np12. It goes back to separation from their parents so …….

Researcher; for you not the parents

Np12: for me I did not have a problem with it.

Researcher: what do you think we can put in place to allow more frequent visiting ours for parents?

Np12: no

Researcher: thank you sister Mokwena for answering our questions, we come to the end of the interview.

Np12: thank you.

Interview 13:

23 February 2023 @21:15

Researchers: good evening sister Moshupi, thank you for volunteering to be part of the study.my research topic is what are the challenges faced by nurses and parents to facilitate parent infant bonding and attachment in the NICU during COVID-19 pandemic?

Np13: evening

Researcher: tell me what do you think are the challenges that prevented bond and attachment in this NICU?

Np13: One of the major challenges is the strict visitation restrictions imposed during the COVID-19 pandemic. Many parents, especially fathers, were not allowed to visit their babies regularly or were completely denied access.

This lack of regular contact and physical presence can significantly impact the bond and attachment between parents and their infants. Another challenge is the limited interaction time between parents and their babies due to the critical nature of the neonatal ICU. Infants in the NICU require constant medical attention, monitoring, and specialized care, which can limit the amount of time parents can spend with their babies.

This limited interaction can hinder the development of a strong bond and attachment between parents and their infants. Additionally, the emotional and physical stress experienced by parents in the NICU can affect their ability to establish a strong bond. Seeing their fragile new-borns in critical condition, undergoing medical procedures, and facing uncertainty about their health can be overwhelming for parents.

This stress can interfere with their ability to fully engage in bonding activities and form a strong emotional connection with their infants. Language and cultural barriers can also pose challenges in facilitating bond and attachment in the NICU. South Africa is a diverse country with various cultures and languages. It is important for healthcare providers to effectively communicate with parents in their preferred language and understand cultural practices that may influence parent-infant bonding. Failure to address these barriers can impede the establishment of a strong bond between parents and their babies.

Lastly, the lack of resources and support for parents in the NICU can hinder bond and attachment. Providing parents with adequate education, emotional support, and counselling can significantly enhance their ability to bond with their infants. However, due to resource constraints and high patient loads, it may be challenging to provide comprehensive support to parents in the NICU.

Addressing these challenges, I maintained requires a multi-faceted approach involving improved visitation policies, increased parental support, effective communication strategies, and a nurturing environment that promotes parent-infant bonding.

Researcher: okay, what do you think we could have done to facilitated parent-infant bond, or use to help parents bond easily with their babies?

Np13: Virtual Visitation: We could have set up virtual visitation options, such as video calls, to allow parents to see and interact with their babies remotely. This would have enabled them to maintain a connection and witness their baby's progress despite physical separation.

Enhanced Communication: We could have implemented regular and effective communication channels between healthcare providers and parents. This would involve providing detailed updates on the baby's condition, progress, and care plans. Clear and transparent communication helps parents feel involved and reassured about their baby's well-being.

Parent Education: We could have provided comprehensive educational materials and resources to parents on various aspects of neonatal care and bonding techniques. This would empower parents with knowledge and skills to actively participate in their baby's care, even when physical presence is limited.

Individualized Care Plans: Each baby and family have unique needs. By tailoring care plans and interventions based on the specific requirements of the baby and the preferences of the parents, we could have promoted a sense of ownership and involvement in the care process. This individualized approach would have helped parents feel more connected to their babies.

Kangaroo Care: Kangaroo care, also known as skin-to-skin contact, is a powerful bonding method. Promoting and encouraging kangaroo care sessions with appropriate infection control measures in place could have facilitated bonding between parents and their babies, even during the pandemic.

Parent Support Groups: Establishing virtual or online support groups for parents with babies in the NICU would have provided a platform for sharing experiences, offering emotional support, and exchanging advice. Connecting parents who are going through similar situations can help reduce feelings of isolation and promote bonding among families.

Psychosocial Support: Recognizing the emotional impact of the pandemic on parents, we could have provided additional psychosocial support services. This may include counselling services, access to mental health professionals, and support networks to help parents cope with the stress and emotional challenges they may face. by implementing a combination of virtual communication, education, individualized care plans, kangaroo care, support groups, and psychosocial support, we could have facilitated parent-infant bonding and made it easier for parents to form strong connections with their babies in the NICU, even during the challenging circumstances of the COVID-19 pandemic

Researcher: do you think it is important not to separate parents from their babies?

Np13: I believe it is incredibly important not to separate parents from their babies whenever possible. Parent-infant bonding and attachment are crucial for the well-being and development of the baby, especially in the delicate environment of the NICU. The presence of parents provides emotional support, comfort, and reassurance to both the infant and them.

When parents are actively involved in the care of their babies, they can form a strong bond that promotes better outcomes for the infant. This bonding helps create a sense of security, promotes healthy attachment, and fosters a nurturing environment even within the hospital setting.

Furthermore, parents play an essential role in their baby's care, working closely with the healthcare team to understand their child's medical condition, receive education on their care needs, and participate in decision-making processes. By allowing parents to stay close to their babies, we empower them to be active participants in their child's care, which ultimately contributes to better outcomes and family-centred care.

While there may be situations where separation is necessary due to medical interventions or infection control measures, every effort should be made to facilitate parental presence and involvement. This can include measures such as adjusted visiting hours, providing private spaces for parents within the unit, implementing infection control protocols, and offering emotional support to parents during their stay. I strongly believe in the importance of keeping parents and babies together whenever feasible. It is vital for the well-being of both the infants and their parents, promoting bonding, attachment, and active involvement in their baby's care

Researcher: do you think parents and infant in the NICU were considered when making COVID-19 rule?

Np13: I believe that parents and infants in the NICU were indeed considered when making COVID-19 rules. The primary goal was to protect the health and safety of both the infants and their families. The restrictions and guidelines implemented were aimed at minimizing the risk of infection and transmission within the NICU.

Initially, the rules might have seemed strict and challenging for parents, such as limited visitation or temporary separation of parents from their babies. However, these measures were put in place to safeguard the vulnerable infants who often have weakened immune systems. By limiting external exposure, we aimed to reduce the potential risk of COVID-19 transmission to infants in the NICU.

As the understanding of COVID-19 and its transmission evolved, adjustments were made to strike a balance between infection prevention and supporting parent-infant bonding. Hospitals and healthcare providers recognized the importance of parental presence and involvement in their baby's care, considering the emotional and developmental benefits it provides.

For instance, over time, restrictions were modified to allow at least one parent to be present during deliveries and for limited visitation, taking necessary precautions like wearing masks and practicing proper hand hygiene. These changes were made to ensure parents could bond with their babies while still prioritizing the safety of everyone involved.

It's crucial to understand that the decisions surrounding COVID-19 rules in the NICU were complex and continuously evolving, taking into account the available scientific evidence, expert recommendations, and local circumstances. The well-being of both the infants and their parents was always at the forefront of these considerations.

Researcher: do you think we could have allowed an activity that will allow parents to bond with their babies, maybe create an activity that will allow them to bond with their babies?

Np13: I understand the importance of parent-infant bonding and the challenges faced in facilitating it. While the safety measures and restrictions in place were necessary to prevent the spread of the virus, finding alternative activities to promote bonding between parents and their babies was a priority.

We explored various options to foster parent-infant bonding despite the limitations. One approach we implemented was encouraging virtual interactions between parents and their babies through video calls or teleconferencing. This allowed parents to see their infants, hear their voices, and feel connected, even if they couldn't be physically present.

We also provided support and guidance to parents on techniques such as kangaroo care, which involves skin-to-skin contact between the parent and baby. We educated parents on the benefits of this practice and ensured they were comfortable and confident in implementing it safely when they had the opportunity to visit. we could have promoted bonding through other sensory experiences. Were we encouraged parents to bring in items with their scent, such as blankets or clothing, which could be placed near the baby's incubator? This could have helped create a familiar and comforting environment for the baby, facilitating the bonding process.

These activities would have played a crucial role in maintaining the parent-infant bond during a challenging time. Our aim was to support parents emotionally and provide them with opportunities to connect with their babies, even if it had to be done in unconventional ways.

Researcher: okay, sister moshupi thank you, there are last two question that we need to ask, tell me how did covid restriction make you feel?

Np13: the COVID-19 restrictions made me feel a mix of emotions. Initially, it was challenging and overwhelming to adapt to the sudden changes and new protocols that were put in place to prevent the spread of the virus. The restrictions created a sense of uncertainty and anxiety as we were dealing with a novel virus and had limited knowledge about its impact on new-borns and their parents.

One of the most difficult aspects was witnessing the separation between parents and their babies. It was heart-breaking to see parents unable to hold or touch their new-borns freely due to the fear of infection. The bond between parents and infants is crucial for their emotional well-being and development, and the restrictions limited the opportunities for this vital connection to be established.

Additionally, the strict visitation policies meant that parents had limited access to their babies. This led to heightened stress and feelings of helplessness for both the parents and us as

healthcare providers. It was challenging to provide emotional support to families during this time when physical presence and reassurance were limited.

Moreover, the shortage of personal protective equipment (PPE) added to the stress and anxiety. Ensuring the safety of both the infants and the healthcare providers was of utmost importance, but the scarcity of PPE created additional concerns about our own well-being and the risk of transmitting the virus.

However, despite these challenges and emotions, as healthcare professionals, we adapted and worked tirelessly to provide the best care possible for our tiny patients. We implemented alternative ways of supporting parents, such as video calls and regular communication updates, to help bridge the physical gap and ensure they remained connected to their babies.

Over and above, the COVID-19 restrictions in the neonatal ICU made me feel a deep sense of compassion for the families and a determination to provide the best care under the circumstances. It was a challenging time, but the resilience and dedication of the healthcare team and the strength shown by the parents and infants helped us navigate through this difficult period together.

Researcher: do you think we could have put in place allowance of frequent visiting hour for parents?

Np13: I understand the importance of parental presence and bonding with their babies. However, during the COVID-19 pandemic, we faced numerous challenges and restrictions to ensure the safety and well-being of both parents and infants.

Implementing frequent visiting hours for parents would have been ideal to encourage bonding. However, it's important to consider that the decision to restrict visitation was not solely made by the hospital but was in line with national regulations and guidelines imposed to control the spread of the virus.

During the peak of the pandemic, South Africa, like many other countries, experienced strict lockdown measures with limited movement. Hospitals had to adhere to these restrictions, which included minimizing non-essential personnel and visitors. This was done to protect vulnerable patients, including infants in the NICU, from potential exposure to the virus.

While it would have been beneficial to have more flexibility with visiting hours, the priority was to maintain a safe environment for everyone involved. As healthcare professionals, we followed the guidelines set by the government and medical authorities to ensure the health and well-being of both our patients and their families.

It's important to note that as the situation evolved and more knowledge about COVID-19 was gained, adjustments were made to accommodate parents and facilitate bonding to the extent possible within the given restrictions. As healthcare providers, we continually strive to strike a balance between safety and the emotional needs of families in the NICU.

Moving forward, as the situation improves and restrictions are lifted, we can explore opportunities to enhance parent-infant bonding and establish more flexible visiting hours. It will require collaboration between healthcare providers, hospital administration, and policymakers to find the best possible solutions that prioritize the health and safety of all whiles supporting the crucial parent-infant bond in the NICU

Researcher: thank you sister Moshupi for answering my questions.

Np13: thank you.

Interview 14:

23 February 2023 @ 20:15

Researchers: good evening sister Moeng, that you for volunteering to be part of the study.my research topic is what are the challenges faced by nurses and parents to facilitate parent infant bonding and attachment in the NICU during COVID-19 pandemic?

Researcher: there will be few questions that will be coming from the main question throughout the interview neh, I am not going to wait much of you time will go straight to the questions.

Np14: okay

Researcher: tell me what you think are the challenges that hinder bond and attachment in this NICU, prevented.

Np14: thank you for having me, firstly I will think the restrictions about visitations and as well as shortage of PPE for parents.

Researcher: okay, what do you think we could have done to facilitated parent-infant bond, or use to help parents bond easily with their babies?

Np14: aaya because nobody knew anything about COVID-19, it would be, more risker to take chances, I won't say they would have been anything better to be done. Things were done to prevent the spread of COVID-19 hence the restrictions, I don't think it was done to japer dice the bonding between the parents and the baby, the restriction were preventative measures. And why

Researcher: do you think it is important not to separate parents from their babies?

Np14: yes, it important, and it has been proven that babies who don't have a bond with their parents have problems growing up especially psychologically.

Researcher: do you think parents and infant in the NICU were considered when making COVID-19 rule?

Np14: I can say in the beginning they did not but as time went on , yes there were considered because restriction were changed for them for example initially the father we not allowed during delivers and the mother were allowed to touch their babies with mask on to prevent spread.

Researcher: at the beginning where father allowed to see their babies?

Np14: no,

Researcher: do you think we could have allowed an activity that will allow parents to bond with their babies, maybe create an activity that will allow them to bond with their babies?

Np14: remember, that time it was difficult, for everyone because clearly nobody knew how this covid spread, what were the risk if someone were exposed to a person who is from outside or a person who is not using PPE properly.

Researcher: okay, sister Moeng thank you, there are last two question that we need to ask, tell me how did covid restriction make you feel?

Np14: it was yeeeeh , it was bad, truly speaking it was bad ,aaaa I couldn't imagen myself not able to hold my baby, remember other had to go home because they did not have covid results,

after delivery mothers will be released to go home wait for covid results , that when they will be allowed to the unit , though they were using PPE but those were some of the restrictions that were to my side it was unreasonable but beyond our control.

Researcher: do you think, the hospital could have done covid test when the mom was in the unit before delivery?

Np14: on admission that would have been, could have made thing mush better so that by the time mother deliver already the results are out.

Researcher: do you think we could have put in place allowance of frequent visiting hour for parents?

Np14: remember even the government would not allow movement within hospitals so it was, it was not the hospital restriction but national restrictions so unfortunately that was it especially level 5 and level 4. (laughing)

Researcher: thank you sister Moeng for answering my questions and you are no duty

Np14: thank you.

ANNEXURE G2

TRANSCRIPT FOR PARENTS

Interview 1

Time: 10:45 02/02/2023 @ Hamas kraal duration 07:24

Researcher: ok aa, this is a consent form that I give each and every parent to sign

Pp01: no problem

Research: before we start neh its actually a consent form, the first page is introducing me and were I study, it tells you that I am doing research about challenges faced by parents and nurses in facilitating parent-infant bonding and attachment in the NICU during COVID-19

Pp01: no problem

Researcher: it tells you the purpose of the study, which I just explained now, the procedure what is it will be doing neh, so will be answering question which I will be asking, those questions will not be going to be more than four questions, is just that those questions will be a follow-up question if I see I need to ask a follow-up question. And there is no risk involved or cause you any risk in doing the study, there is no benefit in being part of the study

pp: 01 I: I known this thing is fine (smiling [FN])

Researcher: okay, here you will sign

pp01: one of my aunts is the doctor

Researcher ohk, that why you understood so well when I called

pp01: laughing, I know this research thing is a problem to most of the students because, HERE I must print my name.

Researcher: yes, but you name will not be written on the article this I just a consent

pp01: no is fine, date is on the 3rd or 2nd

researcher: second

……..

Researcher: and how is the baby

Pp01: all my babies are fine, all are premature I get them at Steve Biko, three of them and my two babies.

Researcher: because I remember when I was calling. Here you sign

Np01: ok

Researcher: I write there

Pp01; ok

Researcher: this is my part to sign and supervisor

Pp01 here I must also write.

Researcher yes

Researcher: I will also be writing because there is something I need to remember I need to write.

pp o1: okay

Researcher: so aaah our interview will start by just talking roughly about telling me about you experience in the NICU, how was your experience

pp1.ooooo for all of those kids I experienced a lot. This third one she was too tiny I didn't think she will survive, because I was also attending longer at the clinic, the antenatal clinic was at Steve Biko because they said is high risk for having premature babies.

Researcher: so aaa regarding attachment like KMC and bonding, were you allowed enough time to bond with your kid.

Np01: yes

Researcher: roughly how much time you were given

pP01: aaa 30 minutes roughly, 30 to an hour

Researcher: so, you would say they were no obstacle that would prevent you from bonding with you child.

Pp01: no no

Researcher: so, what do you think we should in future to all parents to be close with their infant

Npo1:in they still small?

Researcher: yes, what can we do?

Pp02: in future like, what I saw there, the other thing there, is because the kids the machine is on and off, so most of the sisters there they don't look most of the time the machine will be beeee all the time

Researcher: is this in the NICU or?

Pp01: no HIGH care. ICU they all way standing there all the time. (laughing)

Researcher: alright mmmm, do you understand when we say bonding neh?

Pp01: yes.

Researcher: can you explain to me your understanding

Pp01: bonding is when you put you baby here (showing the chest) because is how you bond with your premature baby you cannot be able to hold the baby.

Researcher: this KMC you were able to do it with all visits

Pp01: yes

Researcher: and then aaa what can we do if you remember they would say the baby need to recognise the mothers face. were you allowed to take out you mask?

Pp01: yes

Researcher: I think our interview is done.

Pp01: oooh sure

Rseracher: thank you very much for you time, you actually the first mother to be interviewed

Pp01: oooh ok, I wish you the best on your studied

Researcher: thank you.

Interview 2

Researcher: I can hear you.

Pp02: You're a bit faint. My volume is all the way up on my side.

Researcher: OK, you hear me now, can you hear me now?

Pp02: OK, yeah. Yes, I can hear you. Yeah.

Researcher: You can, Alright. Umm. I the network is bad.

Researcher: let me just eeee start, my name is ntombi., Ntombizodwa Mokwayi, I'm doing research at the university of Pretoria

Pp02: Umm.

Researcher: I'm doing research about challenges that you parents faced during COVID-19 in facilitating bonding and attachment with their infants in the neonatal unit. So, we're supposed to do this face to face, but it seems like I'm struggling to get to parents. I think I will start doing all the visually or through WhatsApp calls because it's it's it's it's a struggle to to find parents to to avail themselves.

Pp02: Yeah.

Researcher: So, let’s start hhh, Umm. I will need you to verbalize that you you gave me a concern to do the study with you because I don’t, we were supposed to sign a consent form, but because of we are doing to visit, we unable to sign it.

Pp02: OK.

Researcher: So, do you give consent? Do the volunteer for the research study?

Pp02: Yes, I do.

Researcher: You also give consent that we record the interview.

Pp02: Yes, I do.

Researcher: I thank you very much and you can state your name and say name so that they can know who you talking to.

Pp02: OK Yeah, my name is Selaelo Seketla

Researcher: Selaelo We just going to ask few questions they are not a lot of questions that we're going to ask and but most of the time there will be a follow up question if let's say for example you are something else next and then will be followed by a follow up questioning. our main question but it's not the one that you will answer. What are the challenges faced by

parents to FACILITATE parent infant bonding and attachment in the neonatal ICU during COVID-19 pandemic?

Pp02: OK.

Researcher: So now going to start with our questions. Our first question is telling me, what do you think are the challenges that hindered or prevented bonding and attachment in the neonatal ICU during COVID-19. What is it that made you, prevented you to attach or bonded the way you wanted with your baby?

Pp02: And not being able to have access to my child, On a daily basis.

Researcher: OK.

Pp02: So, the only time you could see your child as in when you wanted was if you stayed at the hospital. But if you stayed at the hospital, you had to stay there until the child got discharged. You weren't allowed to go home and see the rest of your family, and some of us, we have husbands. We've got households. So, it's difficult to leave everything. And the expected to just come and stay in the hospital and not be able to go anywhere. You can't do anything. You just sit in the hospital until the child gets discharged. And my son was in in the NICU for a month. So, for me, it didn't make sense not knowing how long my child would be there to leave my whole life behind and be forced to just because they couldn't find other ways to to to make us bond with our children. And that being the only option. So, because I didn't agree to stay on the premises. I was only allowed to see my child. I think it was Uh, three times a week, once 11 visits. Uh three times in a week during the week. Only weekends weren't an option.

Researcher: And then what do you think we or the hospital could have done in order to prevent such a an incident to happen?

Pp02: They could have made us come every single day and found specific time slots because they would give you a time slot when we came. They would only give you a time slot between, I think what is 8 and 10 in the morning. And then I think it was three and five in the afternoon. But the weirdest thing for me, they were saying that there were so many mothers. But the weirdest thing for me is every time I came for my visits, and they said you couldn't come the same time every single time. So, if you have visits were, I think. Monday, Wednesday and Friday. I think those are the days that I came, but you couldn't come at the same time all the time because you had to give other mothers an opportunity, right? So, but every single time I was there, the mothers that were in the, in the, in the ward with me were the mothers that stayed on the premises it wasn't. It was ray. Like, even when I went, because I I came to the hospital every single day to bring milk. So, every single morning, once I was done with my things at home, I would come, and I would bring cause. I was pumping breast smoke and bring milk I could if there was. If there was ten of us every single time I brought milk, it was a lot of us and every single time I would go and visit my son. All the moms that were there with the woman, mothers that stayed on the premises, there was maybe one or two other moms. So for me, I felt like They, the nurses and the people in the world were using the times that were convenient for them and not for us moms and for our and the benefit for our children.

Researcher: OK. Mm-hmm. Yes, I hear what you're saying, so.

Pp02: Because even when we were there, if you spend an extra 5 minutes or 10 minutes, then the nurses "neba go koba"(tshwana) (english send you away) and then my mind, I'm like, do you have any idea what I am going to For you to be impatient with me When, when, when my

child is sick, there was a time I was there and It wasn't even my visiting time, but my there was something wrong with my child, like he wasn't OK, you know. And then a doctor came, and then as she sets him up, he started vomiting like green stuff. And then she's like, he's not OK, you know, and I'm like, but can they wash them because now he's dirty and then they got a nurse to both him and then whilst I was waiting for them to finish bathing him. And then I can leave one of the nurses are like “okay sharp O ka tsamaya mo” (English: you can leave now here). I know it's on my I know.

Researcher: OK.

Pp02
And in my mind, I'm like, how can you be so rude?

Researcher: Umm.

Pp02: You know, so another thing is for the nurses to be compassionate towards us. I am understanding that they're there. Yes, but we don't get the opportunity like they do to always be around our children.

Researcher: OK, I hear you. You are stressing Much about it. like they need to have a heart. Do you think maybe there's … they need sort of like an in-service training or an extra class or something that they could do to the?

Pp02: Definitely.

researcher: But they need to to at least listen to the parents and all.

Pp02: Definitely because one of the nurses’ responses was when I was like to. I'm like, I'm going to leave. I was waiting for her to finish this. Like, yeah, what if one of the other moms comes and sees you? And I'm like, I'm not here because I want to be here. I'm here because the the, the paediatrician was taking my child. So, it's not you can explain to another moment. And then she was like, yeah, you're not the first to have your child in the NICU. We've also had our children in the NICU. I don't care, you know what I mean, and I'm not saying it like I'm being in compassionate or whatever, but it's like, don't come and compare your experience and want to downgrade what I am going through just because you've been there. If you've been there, then you should know exactly how I feel. You shouldn't be telling me that as well. Like, I'm the first person to have me. It's my first experience. Do you know what I mean? Don't take that away from me. Don't take how I feel and how I feel and make it seem as like it's irrelevant just because you've been through it.

Researcher: Once this one from the the small ICU, the A or the B.

Pp02
No, it was, which one is A is a win me finish giving birth and they still on the the machines right? It's it. No, it wasn't. It wasn't NICU. It was high risk.

Researcher: Oooooo do mean the other one with many kids that are there that big one.

Pp02: Yes.

Researcher: Oh, OK.

pp02: Yes, it was that one cause. I think he spent only four days in the NICU. The NICU nurses are amazing. They they they don't pressurize you. I think it's A. Is it A?

Researcher: YES, is the one that with nine babies like it's a small one with the machines and all.

Pp02: Yes, it's the one in the corner. It's in the corner, not in the passage.

Researcher: Next to the breastfeeding, next to the milk kitchen.

Pp02:
Yes. So, when when he was first born, he spent four days there.

Researcher: Yes

Pp02: Those ladies are amazing, like and it's, and I think maybe it it's an also an age thing because it's they they have the older ladies there. So, it's like they understand when you come you know they they if you ask them questions they answer you they they don't tell you like you've been here for long go do you know what I mean none of that they hardly even interact with you and this you want to interact with with them and ooooo There's lightning. Yeah. And if you don't ask them, they'll they'll willingly say. OK, but the baby's fine. Did you see that? We've that there's this, like, my child was born at the club for the I didn't even notice it. And the nurse is like, did you see that ngwana o belegelwe ka club foot (English did you see that you baby was born with club foot). And I'm like, no. And then I'm like, oh, ngwana wa ka wasegole (oh my disabled child), no, don't worry. In the hospital, they'll remedy it. Don't worry. And when I like I said, it's all there's ways to fix the club foot do you know what I mean? But the nurses on the other side, paediatricians are nice, but they're not all the nurses are bad. It's some of them that are not nice, Hmm.

Researcher:
Umm, I think you know when you were explaining, because now I I could sense that which area you are talking about now and the the area I'm going to explain to you if you can check name in in a you see sisters are wearing a epilates right.

Pp02: Yes.

Researcher: When the baby sleep before, if you can check in where they are, a lot of babies, most of them they're not wearing epilates.

Pp02
Yes. I can yes, that.

Researcher: Yeah. So, majority of people that are working that side, you'll find that they're enrolled nurses and axillary nurses, I don't know what's the problem with enrol nurses and axillary nurses, I we also don't know. We don't know.

Pp02: I know I think the problem you know with my experience because I mean I still go to Steve Biko on a regular basis because my son is still in the high. He hasn't been discharged from high risk yet and he's still being taken care of for the club foot. So, some of the nurses when you interact with them, you realize that some of them are just there because they want a job and then others are there because it's a calling. You know what I mean? They understand what their purpose is as a nurse. Others, they just take it as a job.

Researcher: Umm.

Pp02:
And then they just treat you like they are doing you a favour or you're coming there and it's free service and it's wrong. That mentality is wrong because when we are coming to the hospital, we are already traumatized.

Researcher: Yes, yes.

Pp02: As individuals, the fact that we're at Steve Biko, there's some sense of trauma because it's not normal for anybody to just be in a hospital. Do you know what I mean? And then you get there and you, you don't understand the systems you're trying to understand, you're frustrated, and then you get to deal with somebody who's not compassionate, who doesn't want to answer your questions, who thinks that you understand the system when you don't. And when you want answers like you're bothering them. Do you know what I mean?

Researcher: I think sometimes you you you know what I have learned, didn't it? I learned through everything. I've learned that if people who don't have information or who don't have knowledge, they tend to become aggressive when questions are asked.

Pp02: Yeah, I yeah, I get you.

Researcher: Do I make sense?

Pp02: Yeah.Yeah.

Researcher: Yeah. So, the person doesn't want you to see that. They don't know because you are, hence, I was saying you could see many people that are working in B are people that are not, that are sisters. Yes, they are nurses But they don't have more knowledge like registered nurses, the ones with the red epilate. So eventually when you mention you will see a person when you ask them a question is either they will not even going to explain to you they will ask you what the doctor say.

Pp02: Yeah, yeah.

Researcher: To understand what it's like, this will explain in they say. I will also call the doctor to come and explain further. Do you understand?

pp02: Yeah.

researcher: Yeah. So that's the different with nurses.

Pp02: And the other thing that I had an issue with there was Because they were so used to me, I'm bringing milk every morning. There was a time where I was running late because at the time my partner had also gone for an operation. That was the only reason why I couldn't come and stay at the hospital because at the same time my son was in hospital. My my, my partner at the time had also just gone in for an operation for his leg, so he was on crutches at home, and it was his first time on crutches. So was an issue. So, I remember there was a specific morning where I had to make him breakfast and I was running late for my usual routine, but I'm not worried because I'm bringing in. More than 600 Mls on a daily basis of milk, so I know that there's more than enough milk for my son, but I'm bringing it anyway because I have to pump right. Then they call me at like 8 or whatever. I think the feeding was supposed to be at 6. They are calling it eight and they were like, there's no milk for the baby. They haven't fed the baby because there's no milk. And I'm like, that doesn't make sense to me because I bring milk every day that, like the milk is finished. And I'm like, that's impossible. But they're like, then I'm like, please check at the milk. The milk banks. Then they go check at the milk bank. The Milk Bank says, no, you lost both milks yesterday and that milk is finished. OK, fine. I'm like, OK, it's fine. I'm on my way. I come and the paediatrician even tells me that the way my child was crying, it was her first time ever hearing my child cry like that. They ended up putting him on a drip to help him so that his sugar levels wouldn't drop. So instead of going to

the milk bag, I just took them the I went to the milk bank and then I asked them for the cup, and then I went straight to the ward. And then they gave the baby the the milk. But then I was concerned that I was upset. I'm like, I bring almost over over half a litre of milk on a daily basis. There is no way. My child can finish all that milk when they go, and they take in the freezes. I don't know how much milk they found. I don't even want to exaggerate. It was litres of milk because even after my son was discharged, I went back and took milk. And even after that, three months later, the milk bank called me and said that they found even more milk and they asked me to come and do blood tests so that I couldn't donate the milk to the to the hospital. So why is my child suffering? And you're telling me that there's no milk when there's there's? Then I'm going out of my way to make sure that there's sufficient milk at the milk bank. Do you know what I mean? So, it's things like that as well that were that were an issue in a concern. And now you're worried because you don't see a child every day. In my mind, I'm thinking, what if I wasn't staying in Sunnyside and I wasn't bringing milk every day? What was going to happen? My child was going to starve.

Researcher: okay.

Pp02: So that's another issue. Is the communication where the at the milk bank because they're so used to you coming every day. They're so lazy to actually check if it's in there and then when we found out they said it's because there was a change in shift. The person that took in the milk uh yesterday and the person that came in this morning is not the same person, but I'm like, how is that my issue? That shouldn't be something that I should be worried about. It's not my problem.

Researcher: They should know how they they store their milk. That's why they call it a milk bank

Pp02: Exactly. And when you're changing shifts, they should be something. I mean, we sign in, I sign in to say that this is the milk that I dropped off. Do you know what I mean? So how when you're looking back at me, logging in the models that I put in and my stickers, how are you not being able to see what is there and where to look for what? So that was another issue that that I experienced that was, that was traumatizing for me because now you're worried about the child. Do you know what I mean?

Researcher: yes, I I hear what you are saying, I am sorry about that one. OK, let's continue with the questions next neh and the next question that we have is that do you think it's important for you to bond or not to be separated from your being at the time of COVID-19, was it important for you not to be separated from your baby?

Pp02:
Ohm.I don't know how to answer that because it's like you understand. Do you know what I mean?

Researcher: Yeah.

Pp02: And for me, as well as a first-time mom, it kind of helped me. So that's a difficult question, I mean. I wouldn't want to be with my child 24/7 if my child is in hospital and I understand that the nurses need to work, you know, but I would have liked to have at least been able to see him on a daily basis. That would have brought kind of that kind of peace to me. So, my only issue was not being able to see him every single day, even if it was just for two hours in a day, it makes sense that it's a pandemic. There's a lot of other moms around. I think every mom will understand that. But the only thing that we maybe struggled was was not understanding. Why we couldn't see the children every single day, even if there was a

timetable, it's fine. But why can't I see my child every day? So being separated makes sense because of the pandemic. We get that completely. I understand that.

Researcher: So basically, you're saying at least if each and every day they will give me a chance to come see and KMC your baby for at least two hours. It will be held it help. It would have been enough rather than giving you three times a day, three times a week,

Pp02: Correct.

Researcher: OK, so Umm if if you as a parent, do you think they have considered considered like mothers that are in ICU's and their babies when they were planning, they covered rules? Do you think the covert rules were were considering parents and mothers that are in ICU?

Pp02: I don't understand that question.

Researcher: The question is saying now the ….

Pp02: I see you. Who is this? The parent. That's and I see you. The child.

Researcher: No, no, no. babies are in ICU.

Pp02: Yes.

Researcher: He's like they were covered. Rules that we that we started that we put in place. Do you think this rule when they were done? Did they think about the new-born baby and the new mother?

Pp02:
No, they didn't. Yeah.

Researcher: Yes, that that's the question. Like do they think about? That in them. How would? Because now let's say for example the current rule is restriction. You can't see your baby; you just deliver your baby. Your baby comes out, your baby's not breathing. Well, they have to take your baby to an ICU. But now you aren't able to to see your child because of the restrictions that we put in place.

PP02:
Yeah, they weren't. They weren't thinking about us and especially because the fathers of the children weren't even, weren't even allowed. So, I was the first-time parent, my partner at the time was a first-time parent and the first time he saw his child was a month after the child was born.

Researcher:
I see.

Pp02: Other than that, he was only seeing pictures, so it makes it difficult even when the child came home, it made it difficult for him because now it's like he's so used to me going and and seeing the child. So, it was also difficult for him to adjust to parenthood because I had already had an upper hand. Do you know what I mean? So also, that thing where the parents of the children couldn't come, I felt like that was completely unfair where they were like, it's only the mothers. The fathers can't come. I didn't understand that concept at all. So, they didn't think about us. They didn't think about their parents, they to only choose mothers was also wrong because they're making it seem as a father's or not parents as well. Do you know what I mean? They denying the fathers and opportunity to bond with their children as well because, God forbid, what if something happened to my child and he didn't get released from the NICU? You

denied the father of my child an entire month that my child is in the NICU where he didn't even get an opportunity to see his child.

Researcher: I hear what you say so. Umm.

Pp02: You think about about us?

Researcher: It's. It's your husband available because this study is also about him expressing his views about how he feels that he never saw his.

Pp02:
No, no, we're not together anymore. I've I'm with another partner. But the father of my child, I don't stay with him. I can give you his contact details and I don't know if he'll be willing to do the interview or I don't know, but yeah.

Researcher:
It fine let's leave it then. OK. Uh. What do you think in your view? What do you think we could have done to improve or to improve the bonding and attachments between you and your infant during COVID-19? what is it that you think you could have at least done. It's you have mentioned the fact that they should have given you 2 hours. That one I have already noted it down. What else do you think they should have done to make it easy for you for parents, let's say all parents so that they'll be able to see their kids at least or bond with their kids.

Pp02: I mean, I think that's about it. It was just about time really, because when you were there, I mean, you were allowed to hold the child, there wasn't any restrictions, you know? So, like, you weren't allowed to hold the child or born with your child. There was no one disturbing you whilst you were spending time with the child. If you had questions, some of the nurses would be more than willing to to answer. So, I think it was that was only, that was the only issue for me being someone who was not staying on the premises. Was just the time thing of not being able to see the child every day? That's the only issue. But other than that, and I think maybe also cause some of the nurses would encourage kangaroo position, but some, like they didn't. Do you know what I mean? Like for me, I think the first time I was my baby was tiny. I mean, he was born at 1.5 KG.

Researcher: Yes, yes.

Pp02: He had so many like tubes stuck in him. You wouldn't. You do? I didn't even know how to hold them. So, I think for the first Few days, if not a week I I didn't even hold my child until there was a student nurse. She was very young. I think she was like 22. A white lady. I'll never forget her. Where she sat with me throughout my whole visitation that day. And then she was like. But you can hold the baby. You know what I mean? And that was the first time. Every single time I've come there the nurses like I thought that I wasn't allowed to pick the child up because of the fact that. I mean he had joined us. He was under the lights. He had all these tubes stuck in him. But she was the first one to say. But you can hold the baby. You know, she was like and then she she was like no. And then she showed me how to pick him up and hold him and what I should do. So, I think things like that where nurses should be told that when moms are visiting, they should just monitor and see and not assume that we know that it's when you bond with the child it's supposed to be like kangaroo. What is it that you're supposed to do when you come? What outfits should you wear that make it easy for you to do kangaroo positions do you know what I mean like things like that where they are also making sure that when we we are making the most of our time when we're there.

Researcher: OK, basically you're saying that they should have a sort of like, if you admitted in the unit, they should have sort of like a booklet information booklet that explains to the parents, what is it that is expected of them?

Pp02: Correct.

Researcher: So that for example, now they someone who cannot explain it least you read it on, you read it on the information booklet, and you can ask Nurses to assist you with the activity that you want to do.

pp02: Correctly, because also for instance, I because I gave birth prematurely, I gave birth on the day that was supposed to be my baby shower. So, my nails were done and whatever. And then because my nails were already done, I was coming in to visit the child, and there were some old women in the ward who was telling me that I'm not allowed to have long nails. When my child is in the NICU and I didn't understand that for me didn't make sense, you know? And then she was like, yeah, we also nurse in this ward and are also young. They also want to have nails. But because they're taking care of your children, they can't do those things. And you guys think that you guys can also have that privilege. It's like you must. You must cut your nails. You must get rid of them, you know. And for me, it's like you're going to come and make it seem like it's a cheap thing. Like anyone has the money to just go and do you know what I mean? So, I kept my nails. And then eventually.

pp02: She got one of the doctors to speak to me and then I was like, OK, fine, I went and then I got my nails cut down a little bit. And then the next day, she was like, come, let me check your nails. And then she's like, they are still too long. Then she got some other lady. I don't know if it was hit of that department or whatever to sit down with me and tell me that. No, you have to get rid of your nails. And I'm like, I'm sorry. I won't completely get rid of my nails. And it's not fair for you to say to me, I can't have nails just because the nurses can't have nails. I understand that you're saying that.

Because of infections and bacteria, you guys are worried about that, but there should be other procedures. I can come in, wash my hair and my hand. My my hands. They I can use a nail brush to scrub me. There are other ways. Because at the end of the day, even when my child comes home with me, I'll still have the same nails. So, you telling me it's not relevant for me? It doesn't make sense for me. I can't understand that. But are you as nurses? It's a different situation. You know what I mean? But it didn't make sense that I I had an old woman bullying me Every single day wanted to check my nails and sending people off to me because she felt like there were other younger nurses who also would wish to have those nails and they can't have those nails because they take caring, they taking care of my child like they doing me a favour.

Researcher: Was this during and during the day or at night?

Pp02: It was during the day. It's an I I just forgot all the nurses name, but it's an old woman. She has. She has grey hair and she's short. But she would literally. And I I ended up feeling like it was more of an attack, and it was no more a concern because the fact that I went out of my way to reduce my nails. Do you know what I mean? And then she was just like, it's not enough. Then those nails need to completely go. And in my mind, I'm like, that doesn't make sense to me. I I don't remember her. If I see her, all the nurses that I'm talking about, if I were to see them, I would be able to tell you who they are. I just don't remember their names. But she's an old woman. She's the oldest woman I had seen in the world. Some of them might be

older than her, but she looks like physically you by looking at her, you can tell that she's and she's an elderly woman. And she's very and she's short.

Researcher:
But this one is in that big warning. The high key one.

Pp02:
Yes, yes.

Researcher: Yeah. Like she went to patient. I think I knew what you were talking about, but she went to.

Pp02: Yeah, yeah, yeah. No. Yeah.

researcher: The last question says name. Goes back to the hours name. How? How often do maybe the visiting hours could be?

Pp02:
I mean, I think Even if they they they can. If they did, we if we if they did the. A 2 time slot or three time slot thing every day that would have been fine because it's like the normal visiting hours at the hospital. The hospital normally does 2 visits your hours with the morning and the afternoon slot so it it accommodates both people. So, if they could do that on a daily basis then it would be fair. I mean maybe three times a day for us because I told you are in the nick queue you know it it it, it should be a privilege of the fact that our children are in high care it's not. In a general world, to know what I mean, but also so that some parents who can't come in the morning can come in the afternoon. Sometimes I can come in the morning and sometimes if I wake up and I'm too tired to come in the morning, I should be able to come in the afternoon. I shouldn't be restricted where you strictly are to come in the morning and that day if I wake up too tight and I can't make it, then it's like I can't see my child because I'm not scheduled or on the timetable for the afternoon shift. So, it shouldn't be like strictly slow is only coming on Monday at at 8:00 And Tuesday at 4. Do you know what I mean? It should be like a flexible rule, a flexible, a flexible timetable. I know they did it because they they they they were worried about the amount of parents that would come at a go. I just don't know how they would go about that. But yeah, I don't know. It's just that's just how it would have been nice if for it to be.

Researcher: But thank you Selaelo taking time, we came out to the end of our session. Thank you very much for agreeing and taking time and using your own data to assist me with the stage.

Pp03: No worries.

Researcher: Thank you very much. And then I'll also pass the other comments that you mentioned through the units because they also need to, this is only not just any study, but if you find something that people need to change on, we need to pass it forward to the relevant department. Hence, I was always asking you which department is that so that I can send.

Pp02: Ohh no yeah. Most of my issues were from it's that one. You see where we go, and we pump milk.

Thank you very much.

Researcher: Goodbye.

Pp02: Yeah, bye.

Interview 3:

Researcher: Yeah, I'm sorry. Please hold. Because I'm hearing myself. OK. Yeah. So, the purpose of the study Is to Find out or ideas that can help us promote or stop the the problem that we arrived at at at NICU previously on, so the main question of the study was whether the challenges faced by parents to FACILITATE parent infant bonding and attachment in the unital ICU during COVID-19. So, there will be few questions that I will ask following the the the big question the the main question. So, our first question that will deal with is. Ohh, what do you think are the challenges that prevented you from bonding and attaching with your baby during COVID-19?

Pp03: I live because of the only challenges I had to go through. It is because of I couldn't go anytime around there to spend time with my baby. I couldn't go anytime. I couldn't even. They wouldn't even allow me to go like we've got covenant in due to COVID-19. But the main reason that kept me alive is because of I was at hospital as well was I was under high-risk care and the hospitality so. Yeah, the challenge was I couldn't go anytime to See my baby because I was also under hospital as Well and my baby.

Researcher:
OK so. So, when your baby was discharged, what happened?

Pp03 Actually, my baby, just just today and then the following day I was discharged. So that's why I So you didn't. You didn't stay long. Yes, I wouldn't mind. No, I did stay long because of because I'm a I'm a cardiac patient.

Researcher: Oh yes, he is.

Pp03: I had eight years I had. I had my baby. Ohh I think it was seven months. Yeah, 32. Yeah. That was two weeks. Yeah, and maybe seven months. Weeks. She had to one born early because of due to cardiac problem with my heart condition and my health condition. So that's. Is there so I wouldn't say it was difficult for me because I couldn't see my baby. I could have seen my baby anytime I want. And then sometimes they even call me to come and see my baby, even though it was difficult for me to touch my baby now and then. Sometimes it will allow me to take care to maybe at least put here like a kangaroo to kanga, my baby. And then yeah.

Researcher: OK, so you never had any challenges of maybe OK, not wanting you to take off your mask so that your bady can recognize your face and so on.

Pp02: Yeah, when you can you speak about masking? So, I was not allowed to take out the mask since really it was COVID-19, and we know hospitals. Sometimes there's a lot of patients that are also. You know infected by COVID-19. Even Me was infected with COVID-19 and they had to take me to tshwane hospital, so to to keep it there for quarantine. So that's when the difficulties came along. When I was away from my baby, I had to stay there around 7 days. I think that was seven days. I was quarantined for seven days. And then after seven days, that's when I was able to see my baby because of I was. I also had infection while I was in the hospital. I got infected there. So that's the that's some of the challenges I was there and then get infected at the hospital, then I couldn't see my baby for 7 to 8 days. I could say after that. Then I had to go there. But then strictly there was mask sanitized always Yes.

Researcher: OK, according to maybe your idea and while you are quarantined for seven, then do you think maybe they could have maybe provided you with a strategy on an activity where you could see your baby or maybe try something else that they can allow you and your baby to bundle attach at that time of seven days to 8 days that you were at 20 for covert?

Pp03: Yeah, but there was this other doctor. And then, yeah, I think I think she did try to help me by sending me the WhatsApp update with my baby because I keep. I keep talking to her, asking how's my baby doing then she keep on sending me pictures. Then that's when I realized, you know, what? My baby, she's not alone. Yes, cause the the doctor keep me posted in the time when I ask about my she give me some air number for WhatsApp. And then we were communicating through WhatsApp about That's what's going on with my baby. Then she could send some pictures. So, for me, As for I COVID-19. Yes, it was COVID-19. We all know that we were scared because of it was COVID-19. We had to quarantine and so on. So, I couldn't to me when I was quarantined. And so, I didn't. I didn't feel much. I didn't. I didn't feel much like I'm. I want to bond with my baby. I wanted to burn with my baby. Which is? She was very young. She went to. I see you. And then B and then C. That's the challenges that I had to go through alone because of Next time I will come there and then she was she will be at the Ward B I see you be all of a sudden when it comes, you went back to a due to some complications. Then that's when I started to realize I want and need to see my baby. And then I was starting to get scared. So, then that's when the doctor realized, you know what, I'll keep on posting you about the baby because usually you are guaranteed you can come inside that that it was most painful. It was most painful especially you can't hold your house your baby.

Researcher: OK, so I'll ask you two last questions and they tell me how COVID-19 restriction made you feel in terms of your family and your baby.

pp03: Ohh it was it was honest with you too hard because there was this time family wanted to come and see me when I was out of quarantine and then I was there. They wanted to bring something. Some because I'm from Vereeniging and Steve Biko if it's a far place. My family was at Vereeniging. Yes, right now in the web to come there, but then you couldn't let them in. They couldn't even take anything from them to bring it to me since, well, it's a covid then. Also, on. So, I couldn't have anything. I couldn't have communication with my my family for them to be there. It was difficult to come and see me. I could only talk to them for the phone. Keep them update. So yeah, that was the most difficult thing about COVID. I think covid always like because of to. There was no one allowed to see a family at hospital due to COVID because they don't know what you bring. Might also come with the. Maybe, let's say infective something. Maybe the food, or maybe I don't know. Bacteria or something Because most difficult.

Researcher: Was the father of the baby allowed to see the baby?

Pp03: No, no, there was no one. There was no one. No one, even my even the the baby's father. He was not allowed to come and see the baby.

Researcher: But was he? Was he ever?

Pp03: He had not allowed us at the hospital I was supposed to wait outside.

Researcher: Did he ever express his feeling on to you how he makes him makes him feel that that he cannot even see his own child?

Pp03: Yes, it was only the only thing was the people was blaming his covid. They had nothing to do but to the rules. But then they blame. You know, like it's something that came along to our life. So, you can't control the nature. So that's why I said we have to be strong all together,

even me inside the hospital. I'm not. I'm not. I'm not allowed to see my baby. Anytime that I want. There must be some rules for me to go inside. I see my baby. And then you give me some time. Few minutes and then time is up. I have to go back to the wall. It was also difficult for me comes to see my baby more often or regularly or have to be there by. You know what? If I have something, they don't go. Go. What you see? So, it was difficult was it was difficult for everyone. Just me, but for everyone. And then.

Researcher: So, do you think maybe because you yourself was admitted in together with your baby, you admitted? Do you think they could have maybe done something that will make you both of you become closer because both of you are in hospital and like other people that are coming and seeing the babies?

Pp03: yes, as for me I would say It is not the best me now say it was. It was for me. It was. I think it was a bonus for me, for us to be under hospital together due to my condition. So, I think if it was not about my condition, remember from I'm from Vaal. I don't even have really around Pretoria that I will say maybe I will go there, sleep then and come and see my baby. It was advantage for me to see my baby whenever I want to. I will see my baby every day to be honest with you, I saw my baby every day. Even. Sometimes they just call me. They don't come to the the babies critical, blah blah blah or so on and on. So, but that was an advantage for me, and I was so happy that I was also under care for hospital in the meantime I'd be was there. She is the first person she was discharged first and then I was discharged. And the only thing kept me on hospitalized because of I needed oxygen. I think if I got oxygen in time, I would have left my baby in the hospital and came regularly. So, but because of I needed oxygen, I was supposed to leave a hospital with oxygen. That's when then they realized I need to be under hospital because I was under oxygen. Even today's Tuesday. I'm still using oxygen to my oxygen. Hey, sorry, I thought maybe that's why I I caught the covid because of our got problems with my lungs as well also. I'll say that was an advantage for me, even though I know that it's a situation that I can control. Yes.

Researcher: OK. Thank you, Ada, for the time that is taking, we came to the end of our questions and I really appreciate that you made effort and made time, but I'll we can finish our interview because there were many stumbling block that was preventing us from doing our interview. But thank you. Thank you very much for your time. I really appreciate it. And then I wish you and your child. More recovery in mission to grow very well and strong. Thank you.

Pp03: Thank you. Thank you. Thank you. Thank you. Have a lovely day.

Researcher: Thank you. Bye

Interview 4

Researcher: You can see me.

Pp04: Yes. Can you see me?

Researcher: Yeah, I can see you. Hi.

Pp04: Hi, how are you?

Researcher: I'm good. And you?

Pp04: I'm OK.

Researcher: I'm good. OK, there will be few questions that will be asked one hour interview. They're not going to be lot of questions. Just a few questions. They're not lot if and you don't want to answer. Maybe one of the questions you are allowed not to answer it. And then because of we are doing this visually, we're supposed to do it face to face. There was. Do you remember? I sent the consent form, right?

Pp04: Yes.

Researcher: Yeah. Were you able to sign it digitally?

Pp04: Yeah. No, I wasn't. Can you e-mail it to me then I sign it automatically, manually? Then I will scan it back.

Researcher: Would you be able? Is it not going to be trouble for you to do that?

Pp04: No, it's not.

Researcher: OK, alright, I'll e-mail you the information.

Pp04: The end of today, then.

Researcher: OK, I'll give you the consent form. Yeah. Thank you very much. Let me just note it down e-mail consent form, OK, on that was informed. It's just that we are volunteering to pay between part of this study about challenges that face by parents during COVID-19 in order to facilitate parent infant bonding and attachment in the NEONATAL ICU, the ICU that we're going to be focusing on is the one that it, it's in the corner. You know, the one that we normally we use the machines.

Pp04: yes

Researcher: Yeah, 8.8A.

PP04: Yes, the, A section. (laughing)

Researcher: Yes, you're not going to concentrate on the B.

Pp04: And see.

Researcher: There is an, Umm, stressing down this one is because normally parents would eventually concentrate concentrated on on B because I know there are a lot of challenges there I know I've noted it down and I've already informed the staff in the unit manager, the unit manager and also the hospital and manager that there are challenges which most of the parents are complaining about. I've already mentioned that the attitude of the staff not willing to help you, not willing to.

Pp04:
Yeah.

Researcher: Explain anything to you. If you in that kind, I've already noted them down. I've already told them about the issues that might mothers have raised during my interviews, and they were focusing more on being those issues.

Pp04: OK. it's fine.

Researcher: Yes, OK. Uh, can we go straight to our interview? Is it fine? But before we start, I want you to State your name and verbalize that you give consent that we do the study and record the interview.

Pp04: OK, my name is Chingwaru. Impatience. Masako, Anna and I give the content that we should do the the the interview. And we should verbalize it. We should continue with it.

Researcher: Thank you. Are you able to see me? The research is all about me. Did I flag it? Are you able to see it? Yeah.

Pp04: Is just faced by parents to facilitate parent infant bonding and arrangement in NICU during COVID.OK.

Researcher: It's. Uh, yeah. So, I'm. I'm not going to. That is the main question at the the main topic of the research, but I'll ask you a question that is relating to that. OK. So, our first question is that tell me, what do you think are the challenges that hindered or prevented bonding and attachment with your baby during COVID-19 in the neonatal ICU? You can switch off the let's switch off so that you can relax.

PP04: I'll get the main challenge, the first challenge that I faced personally is The the the testing of COVID Of COVID-19 There was a queue for for the results It took a bit of days, a few days before I saw my child. And remember was also from. I was from operation.

Researcher: Mm-hmm.

Pp04: That was I could not even walk by then it took me about four days for me to walk at at least properly. It runs a bit severe for me. It was my second operation.

Researcher: Tell me, what do you think they could have done to allow you to be able to bond and attach with your baby?

Pp04: Before we were admitted before, OK, most of us we came with with a during emergency. Ohh came by emergency, but before admission we should have been tested before because when we give birth, they already know that these are going. There's going to be premature. So, I think it would be better if they had tested us before we we give back then because testing is to us just a few minutes before giving birth, then we can proceed like we can give birth. Then we start bonding with the kid, with the kids Because for us to start burning with the kids, we had to 1st go through the test of COVID That was taking a bit of a time.

Researcher:
OK, now do you think it is important for you to have bonded with your baby?

Pp04:
Very much their reason being a There is there are stresses that we're going through It might be because of of pre….. It may be prenatal depression or Ohm antenatal depression or something that was going on behind the scenes like before we we we came for for for labour Like myself when I came in, I was I was in a depression. I even wanted to give up my baby.

Researcher: Understand.

Pp04:
But the bonding to be honest with you There are two nurses there. Can I give them? Can you? Can I give you the names?

Researcher: No problem. They will like it.

Pp04: Uh-huh

Researcher: You can. You can give me they name

Pp04: The other one is called uh Nalidzhane. I don't know if they surname. Yes.

Researcher: Nalidzhani in C

Ppo4: Yes, the other one is called Mashudu.

Researcher: mashudu? Yeah, I know them.

Pp04:
Yes, those two women held a lot.

Researcher: That's nice.

Pp04: On my case, in some someone's case also as for myself and myself, I wanted to give up the baby for adoption and all that. I had a lot that was going on. I lost the father due to COVID Umm I felt my family. I didn't want my family to be closer to me. By the time I was pregnant. By the time I was giving birth, I was going through a lot. I was mad. I was crazy.

Researcher: I am so sorry to hear that.

Pp04: But those two women trust me They they they play the huge role; I think them every day of my life. So, the kid that I'm having now I'm raising like nobody's business Nothing can come between me and you.

Researcher:
I'm I'm happy, I'm happy and I'm glad that they are. They were able to Help you understand and able to take out or maybe make you see that your child would make you happy in future. Even at that moment you were not in the right space to and have accepted the child, but for the fact that that child is the one that is making you smile. And the way the other ones that are the ones that meet you see with this child is a blessing from God and you must not just let this child go. It's the only maybe living thing that is allowing you to remember the father. Because now if you think the father is passed, this is the only thing that is making you close to the father. Yes. Then. But I'm happy that they are. They made you Hey, change your decision. And I'm. I'm so happy about the decision that you have made.

Pp04:
They played their huge role. Trust me, my sister and Bonding with my kid was not so simple. But with the aid of them talking to me, they they would make sure they would talk to me every day. Not that I was not getting the other help from from the hospital awards because my case was also attended by Fatima You know how.

Researcher: Yes, yes, I remember. For Fatima, you know, another thing, another thing that I think Also in the level of the people that understand your culture and understand everything, I think that's why it touches you so deep that they they were there to tell you because they they could understand, and they could bond with you. Cultural wise I think also the cultural dilemma also plays a huge role in understanding each other and you understand.

Pp04: Yeah.

Researcher: Yeah.

Pp04: Yeah. So Ohh, the bonding at the beginning was not so easy when I first saw my child. I was like, what's this, I could not Believe it. That's my child was of my hand size. My inner hand size my palm My palm size So (laughing with a voice of pain)

Researcher: And it's been and, you know, you know, sometimes they I think maybe us nurses when we we tend not to when you know the way you said it neh it made me realize that you're not the only mother that ask us gore why is this baby so small and then because we see these babies like that every time and we'll always ask you what's wrong with the baby because for us it's a normal thing because it's what we are seeing every day.

Pp04: ya because you are used to it.

Researcher: Yeah, I think maybe I see now the fact that you are mentioning it. I think we also need to dwell in the in the in the, in the in the sense of where you must explain to you that this baby is small like we need to make you aware that the baby is small and explain everything, not make you feel like if we don't see what you are you are talking about because we turn out when we answer you, we'll turn answer you as if like but this baby is OK don't understand. But when I was seeing something else. Yeah, the way you put it, it made me even myself out. If Mom will ask me why is this baby is too small. I'm like not this baby is fine Because you know, with US health professionals name, as long as the child has eyes knows hands, you know, all the organs are they You know.

Pp04: All the things and the organs are fine.

Researcher: Yes, we are happy. The size for us it doesn't matter. But for now, I'm happy that this child is prepared you if you get another child who's a pretty mature, you know, no, this is it is just God's testing me and God has transferred me to. Yeah.

Pp04: Trust me, I'll be very I'll be very, and it will be very simple for me to take care of.

Researcher: Hmm.

Pp04: Trust me, though, it was not easy for in in in all sections from A-C. It's not easy for Nurses to to teach you everything. Some of the things you just see from others. What what they're doing, and you you learn I remember my first the first time I was giving her milk I didn't know that I should not leave the the sea range on that, what do you call that thing?

Researcher:
The NG tube

Pp04: Yes, I didn't know that I should not leave the syringe connected to the tube, So I left it I was not told anything I knew nothing.

Researcher:
Umm. ya

Pp04:
And by the time I was seeing, I cannot even talk properly So when I came back, and the food had come back as a vomit.

Researcher: But now?

Ppo4: And I I I was asking this other; I didn't change my name and from that day this year again I asked you, sister, what's what's wrong with this one like “You just left this you you left the tube like that. So, what were you expecting to happen? “Like I didn't know anything. I was not told anything.

Pp04: And remove. Yeah.

Researcher:
Let me not say it in the record, but in the record, she was supposed to also take it out. But

when you are saying that when you came back, it means that from the whole 3 hours the child was left like that, that is something else. It's just telling me that she also didn't come back and see the child. She just came back. Now when you we're there. But either way, let's continue with our interview before we blame people.

Pp04:
OK.

Researcher. OK. Do you think parents with infants in the neonatal ICU were considered when applying the COVID-19 rules?

PP04: I think they were.

Researcher: Do you think you were? You were considered. They thought that they will be parents that will give birth and they will be in ICU. They they consider you weren't making COVID-19 rules.

Pp04: Yes, it is.

Researcher:
OK. Why? Why do you think they considered you?

Pp04:
There was sanitizers were baby was, not allow us to go in without mask and if you don't have mask or you mask was because remember we were given sometimes, we were given the the the surgical mask in the hospital they would never even go out. They would give you the other one. They would never allow you to touch the baby before you wash your hands, they would never allow you to go to the. In your neonatal without uh sanitizing you, you sanitize outside, you wash your hands, you sanitize again, then you touch the baby.

Researcher: tell me what is bonding for you?

Pp04: The meaning of bonding to me.

Researcher: Yes, in your own words.

Pp04: OK, getting close the emotionally, physically and mentally with the with the, with the person that you're bonding with. In our case, we are talking about the baby.

Researcher: yes.

Pp04: Ohh, it's thinking closer, feeling that feeling that that the attachment between you and the baby.

Pp04: Thank you. And do you think the hospital, or the nurses could have created activities that will make Easily bond with your baby.

Pp04:
Unfortunately, it was time for them for covid , but if it was in for COVID, I feel like some situations where were needed for Especially the support Group for mothers, not for the support group for mothers that will help the bonding with the kids, as I'm saying as up the the situation where I was, if it wasn't for those two ladies I wouldn't be where I am today But if I had, if it wasn't for them but with the other help of support group, we were going through different things Together, because I also realized that when I was in housing That mother said. Go and stay there So I got that opportunity to be with other mothers. Fortunately, people that I was with, we didn't know each other. We just met the, but fortunately, we were open enough to to talk to each other. That also helped If someone is talking about their baby embracing their babies

and you don't like your baby in that case and others are telling mother then progress of their baby how happy they are, how difficult the situation is, how they feel they would cry. Those were crying, would console each other. It also makes you feel that OK, that thing that I want to abandon It's important.

Researcher: OK. And then what, what is it that you are able to do during visiting hours of your baby

Pp04: I'll change the baby, I would we would feed the babies, we would Ohm Sometimes there were days that they are washed, would wash them would Play with them. Kangaroo them Though playing with them once a bit difficult because no, that thing you could not touch that thing.

Researcher: Yeah, I understand you. That's supposed to say touch any machines and all, but you tell me know we we almost came to the end of our interview neh but this I want you to tell me how did Covid restriction make you feel personally? The covet restriction. How did they make you feel?

Pp04: Depressed Very depressed A lot of things going Can no longer hug people. As for my case had
As I'm telling my boyfriend passed on Because of COVID When he passed on our starting to get ill, I was I was facing a lot of challenges from work from home, then the pregnancy I last talked to the guy when I was in hospital. They brought me to a hospital The night he brought me in When you went back, he started to get sick. I gave birth the following day in the morning The following day in the evening, he passed on I don't know how, I never buried him He never saw his child And no one My parents wanted to come and see me, but they could not come in because of COVID.

Researcher: So, you're basically at.

Pp04: Ohh it's something else it's That all the restrictions which were there, they could not even They only I I didn't have my my, my Android phone. I was using a small phone because I was afraid to lose it, to lose the bigger one So we can write it in the chat I want to video call or anything else. The only change that we had was via telephone call That was it on the other hand, I had to be strong for the baby that I'm. I'm waiting the hospital.

Researcher: So, sorry to hear that it was so difficult for you. I could. I could imagine, you know? And you're like, man, you when you are explaining your story. I remember there was also a colleague of ours. His main was OK working is the one that sent her to the hospital but during covert night, she also had COVID-19. But believe you me, the husband died but you know, she was in hospital there. Husband got Seagate woman and it was like, you know, men. Even if when they are sick, they're not, they don't want to show it.

Pp04: Please.

Researcher: Yes. And then the men died because because now you also had covid. But he just just just like that, the way we're explaining it OK, let's continue.

Pp04:
But I'm glad today I can talk about it. You know, they back then I could not talk about it. I would just cry.

Researcher: But you know, talking is healing. I'm. I'm glad that you are able to talk about it so that you are able to heal You know. Yeah, you know, covid time was difficult times for

everyone. There's no one who will say I didn't lose anyone during covid, they someone that covid took someone else from their life.

Researcher:
So tell me, what do you what do you think we could put in place to allow more frequent visiting hours by parent?

Pp04: I don't know what the what do they do during these few hours that we not in, But I think the time that we go away from the kids should be Few, yes, it's less but so not enough for mom. You can never get enough of seeing you, baby So I think they could change the time from. I can't remember what was where we what time are we given where we give an only an hour. If I'm not mistaken to go away from the babies, then we come back In In

Researcher: You were given an hour for visiting and then after three hours, I think you can make up that once you are coming back eight feet feeding times like 9:00 o'clock.

Pp04: So, I would like, if possible, to change for them to change not to visit only during feeding hours, but also after feeding hours they sue cause feeding hours. You are therefore only an hour and then after an hour you leave, I would like that hour to be to be increased to at least two and half. Then you live for 30 minutes unless if they there are some admins that they, they, they caregivers are doing that needs much time for them.

Researcher: I understand. Thank you. Thank you very much for taking part of this, that we came to the end of our interview. I really appreciate your effort and your openness and and an opening up and telling me that your difficult times during covid will I really appreciate it And majority of you you all refusing to be part of this study, but I appreciate that you are assisting and then they are changes that will also And be followed at Steve Biko so that we can be rendered better. Service and all. And I'm happy that you mention names so that other nurses can also follow on the footsteps of the nurses that and change lives to patient, not just letting patient besides encourage patient, not even. Maybe I'm not saying a first. The patient but advise the patient doing advising you. That's why you were able to change your decisions. So I that.Your interview will really, really change. A lot of nurse's perception. I thank you very much.

Pp04:
Thank you. And everything is can I can add?

Researcher:
Yeah you can.

Pp04:
Trust me, they. it's not like in ever OK. In every place there's a good and bad thing but trust me, the service that you guys are rendering It's top it.

Researcher:
And I think I think you very much, you know they will really appreciate, you know, feedback a good feedback It's it's also motivating people, you know, when you always getting bit begging then you know it demotivates you that people don't see us trying our best and then we are overweight and a lot of babies but we are trying to understand but your feedback will really, really make sure I'm telling you it will motivate them to even work harder.

Pp04: Only I am comparing with. I've compared the hospital with the different with a lot of hospitals that have been through. I've been. I've been to though is not possibly myself. Maybe someone else who's closer to me, but trust me, the service that we get from Steve Biko I I'm I'm I mean vendor right now so. Should trust me, I recommend people from van that will travel

to Pretoria so that they get help from Steve people because of the service that I know is the Keep it up, people.

Researcher: Thank you very much. We appreciate your your feedback. We really appreciate it. Thank you. OK, I'm going to. I'm gonna end the interview now. Thank you now.

Pp04: Alright.

Researcher: Bye.

Pp04: bye.

Interview 5:

Researcher: To verbalize that, you give consent in a being a participant for the study.

Pp05: OK, no, I give consent to be a.

Researcher:
And it also to.

Pp05:
OK, you were saying?

Researcher: And do you also give consent to be recorded?

Pp05:
Yes, I give consent to be recorded and I give consent to be part of the service edge.

Researcher: Before we start, I want to know how is the baby doing?

Pp05: Ah, he's fine now. He's two years. So, he has no complications. So, he's fine sofa.

Researcher: That's nice. You're enjoying being a mother.

pp05: I love being a mom. I Yeah, I gave it at the age of 35. So, for me it's my first child and for me to have a baby at. Yeah, that age. I was so scared with so many things because I gave birth when the covenant was like All over Yes, it was so scary at the time Because them.

Researcher: I'm so happy to hear you.

Pp05: Yeah.

Researcher: I can see your smiling and you are happy.

Pp05: I am I am very happy. Makes me happy. You know, he's, my reason. Like he's my focus and for cause. And now I've changed on how I see things.

Researcher: Did you attend our follow up clinics?

Pp05: I did I after they said attend. I think we went to Steve Biko. There's a clinic there. Steve Biko After me.

Researcher:
And then the this checked everything.

Pp05: Yes, they did. They they had to check the baby and to see if maybe their baby. He and he doesn't have any. He covid effect and stuff like that.

Researcher:
That's great. I'm so happy for you. I could see you. You are full of joy.

Pp05: No, it it it It's awesome. Hey, because you know, when you have a child and your child is having some challenges in terms of being sick, you, you also feel weak Spiritually and physically, so it the Steve Biko hospital they really helped me, even though at times when they said they separated us our souls. Because, you know, when you are away from your baby and your baby, it's still at the tender age, you feel like you like you like your world it's falling apart. But at least they may be a process to be easy.

Researcher:
I am happy to hear that. OK, let's now start our interview. Neh, I'm not going to ask you a lot of questions. They'll just be a few questions that will be asking them. Our main focus here is you can see on the screen net the challenges faced by parents to facilitate parent and infant bonding and attachment in the unit neonatal ICU. We have mentioned a few, but we would like you to repeat the sorry, my door is going to be making noise. Me.

Pp05: OK.

Researcher: I'll close it now, alright and the first question that will ask, tell me what do you think are the challenges that hey hindered you from bonding with your child during COVID-19?

Pp05: You know the shocking part about COVID-19, we didn't know what kind of a disease and how much effect it has on people up until I was hospital in fact, I gave birth at Steve Biko. And at the time I had to, you know, wear mask and to breathe while you struggle to breathe and then now you have to cover, and you are still bread that was before I even gave it. So, I gave it and my son was a hospital.

They took him away to ICU because they said he has some breathing problems. The difficulties that I I had it was because they had to say to me, I have to for me to see the baby. I have to get tested first. That was my frustration because I was like I wanted to see the baby made lately. So, they said that test. It took 20 because you have to wait for the results. So, it takes 24 hours to for a cut. That's what they told me to take 24 to 48 hours to get your results and then if you are negative, that's when you will see your pay, but if you are positive, they separate you and then you have to isolate maybe for 10 days before you could see the baby. That was my because you know, they have to make a place where you can maybe see the baby even on the screen, even if you have covered. Because when I had covid it was I don't have a like Severe symptoms, so it's so like worried because they said to me, I won't be able to see the baby up until I produce the COVID And certificate to show that I don't have or to show that I have. So, for me it was difficult because I couldn't understand why they didn't test me or why I was not tested when before giving birth so that they don't separate me and from my child.

Researcher: So, tell me, what do you think we could have done to be to, to enable you to be able to bond and attach with your baby at that time?

Pp05: They Can nice it it you know when it's nicer when you are? Because I always hospitalized.
On No Saturday morning and then I gave Birth on Monday. At that time, they should have, maybe took all the tests that they need just for, for, for. For me not to be separated from my child. You know, when you are, especially when you first mom the first mother, you there's a lot that you need to understand and still you don't want to be away from your child. So, if

maybe they when I was When they I was admitted, it still be good. They tested me right and then so that they can prevent in a in a way that to see if maybe they are scared for me to hold the baby or to be with the child, they and then they will say OK we tested her with COVID And COVID-19. And she she's negative. Then it's much nicer and easier than to say after giving birth, we're going to you have to go and test for covid. And then there after you wait for the results and it. It's the process really. And you don't see, you don't know what's going on with your child.

Pp05: So yeah, so they must just test people before they could. They could give birth so that they don't get too, because I really fought with the nurses and daughters, they had to explain and stuff like that for that. I didn't understand why, why I should go and test and be separated from my child.

Researcher: Yeah, that's.

Pp05: So, my they must just test people before they could even give birth, because now I think that test doesn't take long. It's just 24 hours.

Researcher: OK. Do you think it is important for you not to be separated from your baby?

Pp05: To what?

Researcher: Do you think it's important for you not to be separated from your baby and why?

Pp05: But to be honest, when you give birth, you don't want to be. Unless if maybe you've signed or maybe you are giving your child away. But when you are giving that you want to be close to your baby, that's when the protective instinct in in the mother starts. You don't want to be aware; you don't want, you want to see your baby every single minute.

Researcher: Do you think maybe, umm, when they were doing COVID-19 rules they sat down and thought about the parent and the mother? Or they just, did it?

Pp05: No, they are never. I don't think they, you know, covid. I understand COVID. It came when no one was expecting it. In fact, it came. And you know it made there were a lot of changes that were made so that we can be protected, or the public can be protected. But some other things. There are some other things they didn't think of like a parent. When a child comes on earth and stuff or when it When you want to process of giving birth they did not think of that process because even though the parents like my partner was not allowed to come and see the baby because remember he was from the outside world. So, they said they need he needs to get tested first before he could come and see. And we're not even allowed to touch the child That was the another set part you could just see or and unless you will stand in the at the distance and show your child, you can't. You can't attach your child. You can't smell the baby. You can't do anything. You have to be apart from the from your child and then they are. They will give you maybe 5 minutes and then after they take the baby away Like it's, I feel like it's unfair in their way understand about the COVID and everything because it a lot of people died because of it. So, I understand the how they were, you know, the processes of protecting the child but at the same time, they didn't think of how we, you know, we felt at the time.

Researcher:
OK, tell me, do you think the activities that you could have done to ensure you want with your baby, what are those activities? But what could you? What could you have done with your baby to ensure bonding at that time?

Pp05: Umm, you know, I was so worried. You know, sometimes you want your child. Sorry. Sorry about that. You want your child like Uh to recognize because, you know, I think the

infants, they could When you start whispering or talking to them, they could hear that this is my mom's. They can separate. So, I you can at the time we couldn't even because it they were giving us a short time to talk with the baby maybe like Uh, for us? Maybe to Just maybe to talk. I remember you had to cover You can't remove the mask and everything, so just to talk with the baby, even if you don't touch the baby, remember it. They said it's spread through touching, and you know, so just to talk with the baby and yeah, I don't know what I I cause Being interactive with your child, you use hands use hands or maybe they can put it on the paper on the left and then and then you start. Don't know it's kind of difficult to say.

Researcher: Can I paraphrase what you just said? What you're saying you're saying they should have activities that you should have done. They could have taught you how to do hand wash or spray your hands so that you are able to touch your baby. Your baby can recognize your voice.

Pp05:
Organize the voice or maybe put the baby on the lab so that you can you know, you can have that physical connection with your child.

Researcher: Tell me. I want you to think way back. What did COVID personally make you feel covered as a whole. What? How did it make you feel?

Pp05: I was very scared I was very, very scared. In fact, when you remember at the time I gave Birth, they said that if you other people, when they didn't have covid and then when they were hospitalized, that's when they contacted it. So, I was scared that, OK, what if then? Now that I have, I'm going to the hospital to give birth. What if then something happens and then my child, both of us And I you know that infected by the COVID and stuff like that cause some people, they say you die with thin space of three days, So I was very I was thinking of myself and my and my child. I was very scared of having it and I, my son, I think when he was Almost one year, he had Covid so at the time I was very, very scared that I'm going to lose him because he couldn't breathe. Then he was hospitalized So when you were hospitalized and they, they tested me as well and I was positive as well. So, they separated. And so, they told me that I must isolate and be at home because my situation was not that bad. And then he was and because he couldn't breathe So they put him on the oxygen, I was calling the hospital? Because they gave me the number to call. So, I was calling just to check up and I wanted to know how is he coping without me? Because it was my first time not seeing him since, you know, since he was there.

Researcher: He tell me OK, so tell me, what do you think we could put in place to allow? That we could have allowed parents to visit often. What is it that we could have done to allow you more frequent visiting hours with your kids?

Pp05: It's too because there is a place where, where, when your child is it's an ICU unit. There's a place that they call it lodging. So, it's a lodge where the parents who once cause with me. I was on leave when my son was in ICU after giving birth. So, we asked, OK, what can cause? They said people were But I those who don't stay far from the hospital, they can come and visit. But when you visit. Honestly, it's like you visit, maybe for once or twice. So, I heard it from someone there. They said no we they said other mothers we are logging meaning we they can come It's even at 10 to see their baby because they produce the COVID-19 certificate and stuff like that. So, they were COVID free so you could see your child whenever you want to see your child or spend time or sit there in the ICU with your child whenever you want to. So that's when I decided to lodge. I think when I baby has a covid Uh, its kind of brutal for, for, for, for, for it's kind of brutal To send a mother to be home and leave the baby, leave the baby as especially if you have a toddler or infant, you know an infant. I think they must

make a way where you can lodger... Ohh, or ask, ask. If you do want to close. Do you still want to be in the hospital so that you can visit your baby at regularly or put a glass where you can see or even if you stand and just check everything out you check your you signed Your son or your daughter or whatever, or your child in a glass where you could see the baby whenever you want to see the baby. Because with me when he heard covid, I couldn't see him. They said I'm not allowed to come close to the hospital. I'm not allowed to see him and stuff like, so I didn't know what was happening. Even the medication that they were giving the child. I didn't know nothing up until they released the baby. So, you worry you worry you cause you wonder is he is he happy? Is he crying? Is he? You know, needy or something like that

Researcher: So basically, you are saying they should have made a larger facility available for everyone whether you are staying far or you're staying near

Pp05: Yes, even if someone is having like COVID You can just have. Maybe you know they must just put they tell you that you have to isolate if you want to isolate Maybe when you want to, but you don't want to be away from your child. You want to isolate. But in the hospital, they should have a place where someone who is a covid and who has a child, who's hospitalized to be not far apart.

Researcher: So, you're saying they should have a roomed in the mother and the baby, meaning that they should have created a facility where the mother and the baby can room in together because both of them, they could be positive, but they could stay together because they cannot infect each other. That's what you're saying, right?

Pp05: exactly, especially if the mother is posing the child is positive. Why separating? Because with me they said it's not that much, but with my son he needs to be in the oxygen, but they separated as our current understand because we were both positive So yeah, the and the at. At first my son was put, there was a place with the where they call it a covid, covid side So already there was a COVID side, but now they separated us. But I couldn't understand that concept because I could have stayed big with him, you know, helping the nurses because you know the nurses sometimes, they won't be with the child 24/7 because they have to attend other babies as well. So as a mother who is then you can assist and then you can be with your child, cause some kids are needy and you know some, you know, they are crying babies and stuff like that. So they must just make a place where they can make mothers to be involved as well, especially if they have covid, unless if the mother doesn't have a covid, then that can That's when they can separate, but if they're both But I don't understand because if your child is, he has covid Obviously the mother has covid because you spend more time with your child So yeah, they must make a facility where, you know, the mother and the baby are in the same place, or even if you are the mother doesn't is not infected with covid. They must make a glass where the mother can just see not to stay five days without seeing your baby.

Researcher: OK. Thank you very much. Promise that we came to the end of our interview. I really appreciate your time and your energy and your data.

Pp05: Thank you so much.

Researcher: Yes, I thank you very much. So, any questions that you want to ask me, we are done with the interview.

Pp05: is covid still there?

Researcher: yes, covid this still there? You just have to know how to wash your hands and do those precautions and everything and just prevent yourself. It's still there. The numbers are going high Umm, not that as worse as before, but covid is still here.

Pp05: Yeah. OK.

Researcher: We still have patients that are dying of covert.

Pp05: No, that's said. Ohh OK, we would like to one OK We're very confident we.

Researcher: We actually we were actually their lucky ones.

Pp05: Yeah. Alright. Thank you so much.

Researcher: thank you. Thank you.

Pp05:
I'm glad i was chosen.

Researcher: You really have you. You don't know how much this means to me. Thank you very much.

Pp05: Welcome Thanks.

Researcher: OK, bye.

Interview 6

Researcher: good morning Lerato Bokako

Pp06: morning

researcher: how are you and the baby

Pp06: I am oaky, he is fine, and He has grown so much He just recently turned to last December So he's doing very well.

Researcher: He's just doing boy things. Don't, don't. Don't mind there.

Pp06: Yeah Yes. (laughing)

Researcher: They all like that. And then I think, you know, kids, they will see. OK. I know if I do this to my mom this is what my mom will react, they have this thing. I think they kissed my dad genius this month they will know how to poke where they want something. If they want something.

Pp06: They know which buttons to push

Researcher: Yes, exactly you I'm happy that your baby is fine I'm like we I'm just happy that you know the work that we're doing at least now there's a mother that is happy and proud to see their baby Growing.

Pp06: Hmm. yes.

Researcher: Yeah. So, uh, let's get to the work of the day neh.

Pp06: OK Yes Alright.

Researcher: So, the main question is the one that I just now flagged on the screen and the challenges that are faced by parent during the COVID-19 so but there are small questions that are going to come out from that big question. The first question that I'm going to ask you is what you think are the challenges that prevented you from bonding in attaching with your baby during COVID-19 in unit ICU in Steve Biko.

Pp06: I think one of the challenges was when I was unable to see my baby because for the first two weeks, I was able to go there, being able being, you know, wearing a mask, it was a requirement to also weigh the and this the protective the this. What do you call it? This apron thingy. Washing your hands. Just making sure that you are very sterile before you touch baby. But then I think one of the downfalls of it was not being able to see him, but I had to go to the hospital each and every day to drop off milk. So having to just pass by the neonatal ward just to drop off milk, that was a bit of a challenge. And I was just trying to sort of like Zen myself, not to get stressed because. And the sisters told us that if you get stressed it, it reduces your milk supply. So, it was very tough, you know, not being able to get stressed because you can't see your baby, but at the same time you just trying to think that it's, you know it's for the good of him. For him not to get covid because I would travel every day. Apparently, I wasn't allowed to actually stay there at the hospital at that time.

Researcher: Umm You asked if you could do your COVID-19 test before you could be admitted at this as a lodger, as a lodger matter or there was no lodger facility at that time.

Pp06: No, at that time they had said that because of the weight of my baby and I I couldn't stay there and also, I think it's because Of Where I stayed so they said I'm. I'm near the hospital. So, the lodger mothers that we're staying there are the ones that came from far like Limpopo and all these other provinces that they housed them they.

Researcher: Alright. Lerato, would you mind if I can see your face? Because I need to see you face

Pp06: Oh, sorry.

Researcher: OK. So, our next question is mate will be what you think you could have done at that time to have allowed you to be able to bond and attach with your baby's office in your heart It's all picture.

Pp06: Can you please repeat that question again?

Researcher: I'm saying at that time they of COVID-19. What do you think we as the hospital or could have done to facilitate bonding and attachment with you and your child in, in, in the unital I see?

Pp06: I think at that time it was out of anyone's hands because it was a new virus, and we were just all trying to be cautious, and we all know how sensitive premature babies were at that are actually. So, I think for me in hindsight, it was sort of understandable that at the end of the day, it's for the good of my baby's health because I wouldn't want a premature baby catching COVID because I was Going in and out of the hospital. So, I think there wasn't really anything that anyone could do at that time. I feel like you did the best that you could to salvage the situation. So yeah.

Pp06: (laughing and smile)

Researcher: I think you know I must just pad myself or pad ourselves. If people are not doing, then just do it for yourself. No. OK. Do you think it is important for parents not to be separated from their new-born babies?

Pp06: Yes, it is very. It is very important because for me the first two weeks that I was seeing my baby, the kangaroo thing it really helped a lot So I you wouldn't I feel like not being able to bond with your baby, especially if you're a first-time mother. Chances are very high for you to get post Natal depression. So, we wouldn't want to add that to the mix. So, it is it's very important Yes.

Researcher: So, I could say you saying you're touching your baby. Might you be able to burn more effectively and closer to your baby? May make a strong bond when you are touching your baby because you are saying when you kangaroo your baby needs a lot of difference, so you basically So do you meaning detaching and the seeing of the baby speaking to yeah.

Pp06: Yes, the touching and yes and him just touching and feeling you it, it really made a huge difference.

Researcher: It makes you smile.

Pp06: Yes. (Smiling with laughter)

Researcher: I I know that feeling. I know that feeling. And then do you think when they when they were doing COVID-19 rules they considered a mother and a new-born baby? Did they consider that when they were making a COVID-19 rules in your view?

Pp06: I think they I think they were just considering everyone basically So just putting the health of every person first, So I guess it's the price that we had to pay as mothers just to ensure that our babies are safe. And then for me, I was just thinking that well, as long as he's safe, he's fine and he's healthy. And then once he gets discharged, then we'll bond more because at least we have the time together. But as long as he is safe because at that time everyone was just going, you know, we're just going a bit crazy. Just making sure you are sterile You sanitize your hands, so we, I didn't really want to put more stress on myself. It's stressful enough when your child is in hospital for such a long period of time and having to add COVID on top of that, that is, that is just the worst.

Researcher: So, don't tell me. Do you think now with the knowledge that you have; do you think maybe there's something that we could do to maybe think for the next COVID maybe? Let's see there's a next covid that that is coming. Do you think that there's something that we as the as the institutional as the Department of Health could do to assist a mother and her baby to born more, more effectively than separating them? Do you think there something that we could do in in that sense?

Pp06: I think just allowing mothers to stay there with you, babies. I think that is because then then you will know that chances of them catching COVID is very minimal as compared to them going out the hospital because you don't know where exactly they are going. So, if they are at the house at the institution where their baby, then you know that while there aren't any visitors, it's just them and baby. So, chances of them catching the virus, it's very minimal So yeah Yes.

Researcher: So, I would say you're saying that they should not have considered only people that are from far because there was COVID-19 that was there. They should have like thought broadly that now there's a pandemic. Let's now allow all the mother to come because there's a pandemic, right?

Pp06: Yes.

Researcher: OK, alright. And then our next question is going to be About you, how did COVID-19 make you feel? The restriction itself.

Pp06: I was scared for my life.

Researcher:
We all were.

Pp06: I think I was. I was really scared. I was just making sure that I and go to please excuse me. (Speaking with her son as he stepped in the room where she was Go to Papa.) That's the

little baby he wants the bathroom So for me, I was. I was definitely very scared for my life because it's something new that I didn't know I just made sure I stay away from people that included, you know, my parents, my siblings, the entire family, and also taking into account that, you know, my my parents, they've got them like my mom's She's got a hypertension, so chances of her catching it is very high. So, I was just considering all of those things. Just staying in isolation, going out of the house when there is a need for me to go at the house. But otherwise just keeping sterile, making sure I wash my hands. My hands are sanitized and just keeping track of my movements.

Researcher: Yeah. So, you were doing the best for your baby, right?

Pp06: Yes, I did the best that I could.

Researcher: I could see and then what do you think we could put in place to allow more frequent visiting hours for the parents?

Pp06: Umm Umm I really think that what is in place currently is, is OK I don't think there's anything more that needs to be changed because we all know that when you get into the NICU, you need to, you know, just wash your hands, just be sterile. So, the I think like the hygiene principles for its best Yeah, I don't think there's anything that's that needs to be changed or altered. I think what's just currently in place is it was best.

Researcher: And in the time fall for kangaroo in the baby is it. Enough.

Pp06: I think it must just be longer I think just staying with just staying longer with the baby is very important because I remember I would go to the hospital for about an hour and a half and apparently that wasn't enough because my baby started losing weight, So I had to. I had to. I had to stay there for longer for at least more than two hours at the most just so that he doesn't miss me because when he misses you, then he just loses weight. So, I think a lot of a lot of time. Kangaroo with baby is very important.

Researcher: So basically COVID-19 3rd as that kangaroo. If no kangaroo, they will lose weight with kangaroo baby want to lose weight.

Pp06: Yes, yes, yes.

Researcher: So, we should actually maybe try to enlarge our unit so that it could be room in each and every mother. They've got their own cubicle, they sleep, they.

Pp06: Yes, yes, yes, yes.

Researcher: You should try that, but we don't have mind.

Pp06: eish Hey, you see. Money is the problem.

Researcher: OK. Lerato, we came to the end of our interview. I appreciate your time and thank you very much for everything that you like. You made time for me. I appreciate it. Thank you.

Pp06: Thank you so much for having me.

Researcher: OK. Thank you very much. Bye, bye. One like I'm.

Pp06: Thank you so much and bye bye.

Interview 7:

Researcher: this is a consent for with information that tells you that you have volunteer to be part of the research study.

Pp07: okay

Researcher: is a master's degree which I am doing with the university of Pretoria hence I have turned my bag to the university student card.

Pp07: you from okay. I see yes

Researcher: here is state you taking part in the study, it explain the nature of the study " describe the challenges face by parents and nurse to facilitated parent-infant bonding and attachment in the neonatal ICU during COVID-19 pandemic, it explain the procedure that we be answering questions, what are the risk, they are no risk in taking part of the study or any discomfort or anything that will make you uncomfortable, at any point when you feel like that you can stop the interview

Pp07: okay

Researcher: possible benefits, there are no benefits in taking part in the study, it will be published to improve the health service. they will be no payment in taking part in the study and you have the right to withdraw without a reason if you wish to do so, ethical considerations.

Pp07okay

Researcher: explaining the consent for in participant, our main question we ask is what the challenges are faced by parents and nurses in facilitating parent-infant bonding in the neonatal ICU during COVID-19 pandemic. But they will be small questions that are coming from their main question, so the first question, tell me what you think are the challenges prevented you from bonding with child during COVID-19.

Pp07: I will say basically the nurses , because in my case I don't know if any nursing education or any that is related to nurses , but I would say what they have done was very bad because the baby was premature less than a kg you as the mother needed to see the baby , but they don't want see the baby the time you are ready so they make thing difficult for all of the ladies that were there because they wanted us to do the things their way , I understand that their way is the best but they should also consider us because is our kids also, so I just think the is a certain way that they need to change their behaviour especially then speaking to a person or addressing something to a person, they should use this nursing or let me say health language when speaking to people like us , not all of us understand it, so it will be best if they speak to us as human being the way you conducting with us. I think is basically a lack of communication in the way the speak to us.

Researcher: Thank you very much, so what do you think we could have done to allow you enough time with your baby to bond?

Pp07: what I think they could have done basically in that case you see for me it was difficult because the baby's weight wasn't enough so I had to wait for the baby to gain , so they gave me enough time to bond with the baby is just the baby didn't pick up as much weight like a child needed to gain in order to bond daily with the child ,because they were specific time from which I could have gone , we had a time table were you could visit you child you see, so I don't think on that side I would blame them, so I can say it depended on the child's weight.

Researcher: what time did they allow you, like how many hours or minutes.

Pp07: sometime they would say in the morning when you take milk, the time take milk to fed the baby they would come and tell you that we need feds for this specific time maybe morning and afternoon and even in the evening and the will tell you , maybe for an hour you will bond

with you child then you will go out because they don't want the section to be full, they will tell you in the morning 1 hour in the afternoon and 1 hour in the evening.

Researcher: do you think is important for you to bond with you baby

Pp06: ya that is the first thing first because the baby is depending on the mother, so it very important for the mother to bind with the baby. Unfortunately

Researcher: do you think they have considered parent with infant in ICU when making COVID-19 rules? Did they consider a new mom and a baby?

Pp07: they we only considering the baby they didn't consider the mother , cause I understand they wanted to make sure whatever, so COVID-19 was so high during that time , every time when you get a flue it may turn to covid, so I think they were only concern about the babies even though they took care of the parents but they did not , on a scale of 0-100 they were concern with the baby is 100% mothers were 40-50%, they were consent that baby is not infected with anything .

Researcher: What do you think they could have done in order not to separate you and your baby?

Pp07: ya that would have been something better, because they could in the ICU unit maybe gave the ladies who also in the ICU a section close where they could actually sleep with their babies closer nut I understand maybe because of the condition covid was so high they needed to separate the parents to their babies, I think next time when covid occurs again, they should workout something like that, maybe put you with your baby in one room, so that whenever the is bacteria's only you and you baby , you know as a parent you won't go to another section you will be there for you baby you see , because when the baby is close to the parent they become much better.

Researcher: Did they test you of covid when you delivered?

Pp07: Before I delivered, they have done a covid test yes.

Researcher: did they do it because you were coming in or they did because was a procedure.

Pp07: they just did because I was coming in basically, because I was referred from Mamelodi hospital to come to Steve Biko for the c/section, I think it was part of the procedure.

Researcher: ohh before they put you operation room, they need to do a COVID-19 test

Pp07: no, they only done the covid when I went to the hospital, I stayed in the hospital for a month before I could go to operation. I went to hospital on the 14 of November and my baby was born on the 7 December.

Researcher: tell me how did COVID-19 restriction make you feel

Pp07: I hated covid -19 it wasn't a good time especially for someone to give birth because you are so stressed that you will die and your bay will die, so if I can wish something neh, I would wish for the covid not to come back even myself my whole family had covid we did know who brought covid into the house, even thou we were so cautious , we were not let people to come in, I left my job to take care of my baby because of the covid , so now I can understand how we contact covid and she this baby was basically the first person that contacted the covid she just got the seizures we don't know we it came from just to find out she was covid positive, so I hate covid I don't want , wish it could actually not come back anymore

Researcher: what do you think we could put in place to allow more frequent visiting hours from parents

Pp07: you see is difficult for you people because the people at hospital the doctors are try to do their work ,I would say some nurses is the issue , especially the nurses that does not have kids , they just think about themselves , I understand is you duty doing your job but you guys , nurses need to take it into consideration there is a baby there who doesn't know those people there so they should make more visiting hours and maybe I understand they had a place where they say you guys can lodge to sleep but only certain mothers could sleep there, myself before I could sleep there I had to take a covid test just because I come out then you wait 14 days or how many 7 days then after that then they say your child is discharged .they were making things difficult because of the lack of communication, and the way they saying it they would use their health language so it best if they could create more visiting hours especially during the course of the day, and maybe say to the mother especially the breastfeeding babies it was difficult like my child now I have to leave she doesn't take milk by the bottle now they have to tube feed her which is not nice, and because of that she was losing weight, when it come to my attachment I would tell the nurses but the doctor say but the mom can sleep but the nurses come and chance everything, but I am not sure how they will work out this visiting hours if covid occurs again but now in my personal opinion I have learn I lota bout covid now if covid occurs and I see my child has covid I would take my child to hospital anymore because I feel personal that people at Steve Biko they doing test on our kids we don't even agree, they just say your child is admitted they would tell you what is wrong with you child, with myself I normal take the file they do not want to give you the file also , I will just take a screen shot of the file , go home sit on the internet and read

Researcher: thank you very much for you time.

Pp07: you welcome

Interview 8

English translation	Direct translation: Sepedi is used
Researcher: how are you	Researcher: le kae
Pp08: I am fine and how are you?	Pp08: re gona le kae?
Researcher: this one is our consent, I was consent here start by me introducing myself who I am. Studying at the university of Pretoria doing the masters , we doing sampling at the Steve Biko hospital in the neonatal ICU, our study is about the challenge parents faced in parent-infant in bonding and attachment during COVID-19, here it say they will be few questions that will be asked during a face-to face interview asking about challenged you faced during covid-19 in NICU, this study doesn't have risk or anything that will make you disconformable ant there are no benefits to the study and there is no payment of any kind or there is no cash that will be involved in taking part in the study ,you have the right	Reseacher: re teng, so this one ke consent ya rona, consent ya reona e start ka nna ke te introduce gore ke mang, ka bala ko university of pretoria ke dira masters re tsea sampling ko steve biko ko neonatal ICU, study sarena ke gore re otlwe the challenges tsa ba tswadi go bonder and go attacher le banna during covid -19. Here it say re tlo go botsea few questions tse re tlo erang face to face interview ka tso nna di challenges le beleng le tsona ka COVID-19 ko NICU, this study doent have risk or anything that will make you discomforable and there are no benefits to the study, and go ona payment of any kind or there is no cash that will be involved in taking part in the study, you have the right to withdraw from participating

to withdraw from participating without telling the reasons if you tired you just tell you don't want any more to participate. Ethical approval I got it from the university of Pretoria and the department of health also Steve Biko hospital and this is my information this part is the confidentially ty part, we it say what will be discussing will stay among us unless there is information that you want me to send back to the hospital, and this is a consent that you agree to be a participate. So, you write you name here then you sign.	without telling the reasons if o lapile you just tell me gore ga o sa nyaka. Ethical approval I got it from the university of pretoria and the department of health also steve biko hospital, and e ke information ya ka and this one ke confidentiality gore se re tlo se bolelang will stay among us unless there is information that you want me to send back to the hospital, and this is a consent gore wa dumela gore wa participater mo study. So, you write you name here then you sign.
Pp08: okay	Pp08: okay
Researcher: we going to start our main question is what challenges are faced by parents and nurses to facilitate parent-infant bonding and attachment during COVID-19 in the neonate ICU, so will just have few questions from the main question. Our first question what are the challenges that prevented you from binding with your baby during covid -19? So, what is it that preventing you to see your baby as you wanted it?	Researcher: we gonna start our main question is what challenges are faced by parents and nurses to facilitate parent-infant bonding and attachement during COVID-19 in the neonat ICU. so will jusT have few questions from the main question. Our first question what are the challenges that prevented you from binding with your baby during covid -19? So, what is it that preventing you to see your baby as you wanted it?
Pp08 : the challenge is that when you went outside or you go outside when you come back you have to take off those clothes because you don't know if it has infection or what it has and you afraid to touch you baby and when you you're your child want to pull out that mask and were wear mask to protect them because we don't know how is it where we come from.	Pp08: challenge ke gore ge o ya kantle or o ya merokong ga o boa o tswanetse ke go hlobola disparo because ga o tsebe gore dinale infection or eng and o tshaba go tswara ngwana and ngwana ge o tswara o nyako hlopola mask and o abara mask gre o sa mo infector ince ga o tsebe gore kwa o tswang
Researcher: what is it that you think Steve Biko could have done so that you see your babies.	Researcher: o nagana gore keng se ko steve biko se ntseba ka se e tsa gore le bone banna balena?
Pp08: they were supposed to have tested use first before, because when you pregnant or have a baby, they don't test you first to find out if you have covid of not, you just go.	Pp08: ntse ntswanetse bare test bele, because like nou if ke pregnant or ken ale ngwana ga ba go teste pele gore o nale covid or gaonayona nah. You just go.
Researcher: so, you are saying they should have tested you first while you were pregnant before you deliver so that when the baby is out you ready to see you baby	Researcher: ore ntse batswanetse ba go teste ge o le pregnant before o delivera. So, gore ge ngwana a tswa you are ready to see your baby
Pp08: yes, because you will be inside, if they have tested that you negative, which means you are ready to check you baby.	Pp08: e ya. Because tlabe o le ka mola, if ba go testele gore okay o negative, which means gore o right gore o ka checker ngwana.

Researcher: do you think is important to bond with your baby?	Researcher: do you think go bo hlokwa go bonder le ngwana gao?
Pp08: yes	Pp08: yes
Researcher: why do you say so, what is it that make you say that.	Researcher: why ore bjalo? ke eng se segodirang gore ore bjalo.
Pp08: if you don't bond with the baby the baby will not get used to you. Like now when I go to work, he stays in the house, and he bond more with the one he is with. So, when you with the baby full time you able to see what you child wants and what make them happy and not happy if they sick.	Pp08: if o sa bonde le ngwana, ngwana a ka se go tlwayele, like nou ge ke ya merokong o sala ko ntlong and o bonder le bona, and ge o nale ena full time o tlo bona gore ngwan gao on yakang ga a nyakeng, o happy ga happy, o tlo kgona go bona any change wa lwala ga lwale. We bona mo Ngwang.
Researcher: are you saying bonding allow you to know you child and make it easy to see you child when they are sick.	Researcher: ore ge o bonda le ngwana gor it makes it easy for wen age ngwana a lwala o gona go mona faster.
Ppo8: yes	Pp08: e ya
Researcher: do you think when COVID-19 rule were implemented they thought about new mother and new babies?	O naga gore during covi-19, di COVID-19 rules ge ba di implimator ba nagane for new mother and new babies?
Pp08: I don't think they thought about them, that is why I am say if they have thought about it, they would have tested us before we deliver, but you end up delivering while you covid positive then you infect the baby.	P08: I don't think ba di nagane, that why ke go botsa gore ge nkebe ba dinagane ka mo goo, before o belega or ge o seno belega ntse ba tswanetse ko go tester bele maara just because ga ba go testea, ga ba direselo o no belega o nale covid wa bona ngwana wa no infector
Researcher: tell me how did COVID-19 restriction make you feel?	Researcher: ke nyaka o mpotse ka wena gore COVID-19 restriction e direle gore o feels bjang?
Pp08: eish it was not nice it was not nice because you can't bond with your family, you can't go were you want to go, you have limits, like with children you afraid to come close with them. You see that kind.	Pp08:eish ntse e se monate. Ntse e se monate,because ga o bond le family, o pala ke goya mo o nyakang, o nale limit,like gona ka mogo le bana o tshaba go ba le gwane ga uswe. Wa bona tsa mo gothao
Researcher: do you think Steve Biko hospital can create, change the visiting hours to accommodate other parents or the way there are fine?	Researcher: o nagana gore steve biko hopital e ka creater ,ya changer di visting hours gore ba gone ho accomdita batho babange or ka mogo di sharpo?
Pp08: the visiting they are okay, as long as a fathers can produce their testing care or vaccination card to show that they are negative and mothers to stay at the hospital	Pp08: the visiting di sharpo as long as bo papa o a tla le card ya go bonths gore or negative or o injected covid. Bomme ba dule ko sepetlele

Researcher: are you saying for the parents they need to lodge so that they stay inside so that they can see their babies and not go outside and father to produce COVID-19 result to show that they are negative or COVID-19 vaccination certificate Pp08: yes Researcher: thank you we came to the end of the interview. Pp08: okay thank you (laughing)	Researcher: are you saying for the parents they need to lodge so that they stay inside so that they can see their babies and not go outside and father to produce COVID-19 result to show that they are negative or COVID-19 vaccination certificate Pp08: eee ya Researcher: thank you we came to the end of the interview. Pp08: okay thank you (laughing)

Interview 9:

Researcher: good morning Phindile how are you

Pp09: I am good and how are you.

Researcher: I am oaky thanks. So, when my study started, started that time when I was at Steve Biko hospital, So it continued. Right now, I'm in central office, but in the Department of Professional Development where we trained professional nurses and other just to give them in-service training.

Pp09: Yes. OK.

Researcher:
And I like to welcome you. And I like to thank you for volunteering to be part of the research. It will be a great help to us knowing how we can assist in the near future if a same situation happens.

Ppo9: Yes.

Researcher: Our interview is not going to take long because there are a few questions that will ask. They're not. They're not difficult. Questions are questions that you know, and then how in the question that makes you how, how you feel now and then. But before we start, I just wanted to know how is my baby doing?

Pp09: Ohh, she's so great growing. Yeah. Yeah, it's just two years. Just two years now and very naughty.

Researcher: but you really enjoy that night?

Pp09: Yeah. No, I'm starting to enjoy it because I missed most of the time and not being with her. Yeah.

Researcher: I'm happy that your baby's well and then they were happy to see your baby growing and then, you know, I can see that smile when I was asking how is your baby? You just started glowing.

Pp09: (laughing with smiles) Yeah, it's just so beautiful.

Researcher: I I'm glad I'm happy. I'm happy. OK, then research. You need to be comfortable, whatever that we discuss here, it will please among ourselves. Unless if you want me to give information to other people that you would like then to know about the information. For instance, if you're not, if you have a certain complaint that you need me to pass through. I can pass it through. But without them listening to the recording and then any maybe Not even a complaint? Maybe you saw is the certain a certain doctor being nice to you? We can also send and our gratitude to them and so on.

Pp09: Yes.

Researcher: So, our main question, yes.

Pp09: Yeah.

Researcher:
Our main questions there is the challenges that you face during COVID-19 in bonding and attaching with your baby. So, the first question that we going to ask you, what do you think are the challenges that prevented you from building and attaching with your baby during COVID - 19?

Pp09: Yeah, there was a time I couldn't be able to see her Especially the time she was born, because I was in ICU after ICU, went to high care and for weeks and I couldn't be able to see her even for the first time. So, it was very difficult for me at time I saw her, she was like few weeks old, and I've missed some of the time with her. Some development in in, in in a growth Yeah.

Researcher: Can you pause? Because I thought my room. I'm not going to hear the noise from the side.

Pp09: Pardon.

Researcher: A I couldn't hear you properly because they are putting an icon in someone else's room. Can you repeat that please?

Pp09:
Ohh OK, I said it was so very difficult and some painful situation where I couldn't be able to see her and especially when she was born, as I told you I was, I was in ICU after ICOI care and four weeks I couldn't be able to go and see her while she's still a new-born. And it was very difficult for me to, to bond with her because she doesn't know me. She never felt me or anything after birth. Yeah, I just I able to see

pp09: Hello.

Researcher: I will respond to you now. I was just waiting for the drilling to subside.

Pp09: OK.

Researcher: Yeah. And then I'm.

Pp09: I can't hear you properly.

Researcher: No, I've, I've. I've moved on the mic because they were drilling, so I didn't want that noise to be on my recording.

Pp09: Yeah. Yeah. OK.

Researcher: Ohh yeah, so tell me, what do you think we could have used to allow you to bond with your baby at that time.

Pp09: UM, it was very challenging because the spread of COVID-19 they couldn't able to take the baby out of the nursery and to come and see me Uh, or have some moment or some few minutes with her at that time, and maybe if they could have arranged some private space where they can bring the baby to me, then we can. I can bond with their baby Uh, sit with her for a couple of minutes or hours and then after they take her back. So that was very challenging moment Uh, because that didn't happen, and afterwards it's always so very difficult to bond with the child. I think it took some month Since uh, we can be able to bond to each other.

Researcher: When you were admitted, when you were discharged, when the baby still in, I see you.

Pp09: No. The moment I was discharged was also discharged Yes.

Researcher: And then do you think it is, it is important for you to bond with your baby and why?

Pp09: It is important that the first minute uh it's imported to bond with your baby because she gets used to your hands, your sent and everything. But that didn't happen So the child could like, as you see the nursery, they are different the staff members they come in, they go out, they come in, go out and the child didn't have that much comfort or security that she needed from birth Yeah.

Researcher: So, do you think COVID-19 regulation rules? They've considered new mothers and babies when they made their COVID-19 rules, they consider you and the baby?

Pp09: No, they did not They did not.

Researcher: Can you elaborate more on when you say they did not? What is it that they could have done?

Pp09: As I said, like maybe if they arranged some space with your baby that at the time of birth and me, I was. Uh, I was diagnosed that I shouldn't uh breastfeed the child. Yes, I understand. But there are some mothers. They wanted to breastfeed their child and bond with them. And remember after I came out of high care, they took me to the necessary, but they didn't allow me to stay for some time they couldn't allow me to feed the child they said I was just Look at her and just go. Not touching her, not doing anything to her. So, as I said, like maybe if they've created some regulations that they create a space of a mother and child at the time of of birth or maybe separate them or What can I say uhm What is it called that uh? When we are, we are taken to a certain place where no one is allowed for a

Researcher: isolation.

pp09: yes. If they did that, it was better for the other mothers who could be able to take their child home. But when their child is in ICU, it was very difficult. You were not allowed anytime. You're not allowed to spend some more time with their child. So, I think more rosters should have made them and like some of us who couldn't connect with our Who's our kids? For some time, I can say it took me almost a year and to be able to bond with my child and after then, yeah, it was Day by day like yeah Yes Uh, OK, not tell you.

Researcher: Sorry. I'm asking were you allowed to take out your masks while you are missing plate?

Pp09:
No, no, no. No, no, no, no, we're not allowed We were not allowed to take off our mask And I

think it was also difficult for the child to identify Uh, they are mothers to differentiate them from other caregivers and other things, because we're always on masks Yes.

Researcher: Another thing this is going to be a personal question to what's covered now. Tell me, how did COVID-19 restrictions make him feel as an individual or as a parent?

Pp09: Hi it was so very difficult Like uh That, that, that distance that you must keep Uh. Even as a parent sometimes. UM Keeping that safe distance from the child or from anyone else around you that was so very difficult, and we like the wearing of mask inside outside That was also very challenging and especially if you are still pregnant, that was so very hard wearing a mask all the time. So that was a very big challenge I experienced yes.

Researcher: I also experienced the same challenge because I was also pregnant in during COVID-19 you're very wearing a mask and I just I didn't have covered because I was not wearing the mask.

Pp09: Ohh OK.

Researcher: So, tell me, do you think we could have put some allowance of visiting hours or maybe change some rules during visiting hours?

Pp09: Yes, I think they should have done that Like.

Researcher: So, do you think how often should we have allowed parents or how long should we have allowed parents to visit?

Pp09: Maybe three times a day. I think that was better and.

Researcher: How often? How often did they allow you to visit at that time?

Pp09: Once Only once, when sometimes they will allow you to feed their just once and then you go, you can come back again, then you.

Researcher: And then you go and then what happens?

Pp09: Sorry.

Researcher: Can you hear me? Can you hear me?

Pp09: Yes, I can, yes.

Researcher: And did they explain to you about the condition of the baby. I'll give you any comfort of some sort While visiting the baby.

Pp09: Yes, they do. Even though the sisters in the ward, they were so supportive all the time, like encouraging you that it all will pass, it all pass and you be discharged. You'll see your baby, you will have we were supported all the time Yeah, we've got a good support from all the cake caregivers from the nursery to the ward Yes OK Ohh Uh.

Researcher:
Thank you all. Ausi Phindi, we came to the end of our interview. I really appreciate your time for allowing me to do this interview with you. I really, really appreciate you. And please just give a kiss to my baby and say mmmch, OK?

Pp09: OK, I'll do that. I'll do that.

researcher: OK. Appreciate. Appreciate your time.

Pp09: Alright, thank you so much.

Researcher: Thank you. Bye.

Pp09: OK, OK.

Interview 10;

Direct translation: Ndebele	English translation
Researcher: good morning Busi, how are you Pp10: I am doing and you Researcher: I am cool, tell me how is the little one	Researcher: good morning busi, how are you Pp10: I am doing and you Researcher: I am cool, tell me how is the little one
pp10: she okay but o slow. Nor a ngage sogolese but o Slow. E thozake Researcher: o nga worry ko zo lunga, a ngethi, o ya khumbula nge sekati lesa se ku jela u guthi maybe oxygen levels e zokwenza, maba resuse now and then, o zoba eventually they'll be slow but at the end zuba right Pp10: ya, khona manje khona a zama o ku kuluma, ge two years ya swakala lapo an lapo but u kunye a ka zwakale Government. Researcher: u mothwana wa kho we 2020	pp10: she is okay but slow, no he doesn't trouble me, but she is slow, her thing a slow. Researcher: don't worry it will be okay, do you remember when they we resuscitating you baby now and then they explain that the level oxygen may affect the brain, eventually they will be slow but at the end she be right.
Pp10: yes	Pp10: yes, right know she learn to talk at two years, she talks, you hear there and there somewhere you can hear.
Researcher: u wazi o kuthi o mutwana wa me ya khuluma mmara a ke kho fluently but o nna 4 years, eventually o zo yenza	Researcher: your baby was born in 2020
Pp10: nye jabula o khuzwa lokho	Pp10: yes
Researcher: so, don't stress that you baby is not fluent, eventually will talk	Researcher: do you know my child is 4 years old he can talk but still not fluent, eventually he will talk.
pp10: (agreeing with her head.)	Pp10: I am happy to hear that.
researcher: and wena u njani	Researcher: so, don't stress that you baby is not fluent, eventually will take
pp10: mina nge right wena researcher: ge right. E reason ye kuti se bela, ku zolunga if ge kuluma e selungu go ba e se zulu se ya ngi shaya. Pp10: kulungile	pp10: (agreeing with her head.) researcher: and how are you pp10: I am alright, you?
Researcher: ncqela o ku vala e window .	Researcher: I am alright. The reason that we here, is it okay if we can speak English because I am not fluent with Zulu.
Researcher: thank you before we start the is a consent for which we need to sign to agree beibg a volunteer in the research study but since we are doing this via teams I will you to verbalise. You state you name and surname	Pp10: is okay Researcher: can I close the window there is something making noise Researcher: thank you, before we start the is a consent for which we need to sign to

verbilising that you give us consent to do the study and also to record the meeting Pp10: okay igama lami nginguBusisiwe skhosana, yazi ngihlala eLynnwood kodwa ekhaya kuseMpumalanga e-siking, ngiyavuma ukuba yingxenye yalomhlangano Researcher: ngizoqala with few questions aziningi we not gonna wait lost to time ukwenza am questions. Tell me want are the challenges that hinder or prevented you from bodying with your child during COVID-19? Pp10: ooo isikhathi se-covid izinselelo enginazo kwakuyisikhathi se-covid ngaleso sikhathi futhi kwadingeka bangikhiphe futhi ingane ihlale e-ICU futhi ngangingakwazi ukumbona nsuku zonke ngoba sasingavunyelwe futhi ngaleso sikhathi babesebenzisa itransport nengane isencane futhi eish zaziningi izinkinga, kodwa noma kunjalo ngiyabonga ngoba babengiphethe kahle ingane yami esibhedlela ngisho ngiphuma ngangiyoyibona kabili kathathu ingane yami. ngesonto Researcher: when you said they were lots of problem do you mean financial because the transport is expensive, and you had to travel. is this what you are saying Pp10: yebo, ngoba ngangifuna ukuba nengane kakhulu zonke izinsuku, angikwazanga ngoba kwadingeka ngigibele amatekisi amabili ngiyombona bese ngibuya ngaleso sikhathi, kwakuwusuku abangijikisa ngalo esangweni ngomunye uMgqibelo, abazange ungitshele ukuthi asingezi ukuzobona ingane Saturday, ngakhala esangweni ngaze ngaphenduka ngathi ngibuye Monday. Researcher: no bakujikiseleni esangweni, bekumele bakungenise kanti iwadi yilo elikuxoshayo Pp10: yebo bafona ewodini bathi abavakashi, ngathi angivakashelwe ingane yami, ngafonela umama ekhala, kwakushubile ngaleso sikhathi se covid angibablame, bebengivikela nengane yami.	agree being a volunteer in the research study but since we are doing this via teams I will you to verbalise. You state you name and surname verbalising that you give us consent to do the study and also to record the meeting Pp10: okay my name is Busisiwe Skhosana, know I am living at Lynnwood, but home is Mpumalanga at siking, I agree to be part of this meeting Researcher: I will start with few questions they are not a lot, we not going to wait lost to time doing these questions. Tell me want are the challenges that hinder or prevented you from bodying with your child during COVID-19? Pp10:ooo the time of covid the challenges I has is it was the time of covid at that time and they had to discharge me and the child remain in ICU and I could not see him every day because we were not allowed and by that time we were using a transport and the baby was still young and eish they were lot of problems , but anyway I am grateful because they were taking care of my baby well at the hospital even while I was discharged, I would see my child twice or three times a week. Researcher: when you said they were lots of problem do you mean financial because the transport is expensive, and you had to travel. is this what you are saying Pp10: yes, because I wanted to be with the baby all most every day, I could not because I had to take two taxis to see him then come back then, the was a day they turn me way at the gate one Saturday , they did not tell me that we don't come to see baby Saturday , I cried at the gate until I turned back and told me to come back Monday. Researcher: not why did they turn you at the gate, they should have let you in and the ward will be the one sending you away. Pp10: yes they called the ward and they said no visitors, and I said I am not a visit to my baby, I called my mother crying, it was rough

Researcher: njengamahora abakunike wona ukuthi bathanda kuphi isikhathi sokuvakasha. Like visting time? Pp10: mmm ngizohlala naye like one hour Researcher: one hour okay, pho uma ufika bakubize ukuthi uze? Pp10: cha kwakuyinto abasibhalele yona, izikhathi esingena ngazo, uma isikhathi sesiphelile ngangihlala ngaphandle ngilinde ihora lesibili le-visiting. Researcher: so ngakho nina asifiki mihla namalanga ngenxa yendaba yezokuthutha futhi nangaleso sikhathi babengekho omama ababelala Pp10:(agreeing with the head) Researcher: ucabanga ukuthi yini abebengayenza ukukusiza ukuthi ubond nengane yakho ngesikhathi se-covid? Pp10: bekungakuhle noma sebesikhiphile kodwa nginendawo lapho singahlala khona ngaphakathi kukaSteve biko not Tshwane ukuze sivale izingane zethu. Researcher: mmm so wena uthi bekumele bakwenze ilodge maybe test you for covid ukuze ukwazi ukuloja Pp10: yebo ngoba bakhona abanye eTshwane kwathi lapho ngiphuma bangitshela ukuthi kugcwele endaweni yokulala, ngakho kufanele badale okuthile kuSteve Biko. Researcher: yimiphi imisebenzi oyenzile ngesikhathi sokuvakasha ekuvumela ukuthi bonde ne mothwana Pp10: Ngizomthatha ngimbeke lapha phakathi kwebele hlala nebhayi ngokwanele bese uphakelwa bese ushintsha ingane, isikhathi esiningi ingane yayilala Researcher: so tell me how did COVID-19 restrict make you feel you Pp10: basenze ngenye indlela ngoba uma usesibhedlela, njengoba ngakutshela ukuthi ngihlale esibhedlela izinyanga ezimbili ngigcwele, ukudla kwasesibhedlela kuncane bebengavumeli izivakashi futhi balethe ukudla, bazokutshela nge-hypertension futhi usitshele ukuthi ukudla kwasesitolo	that time of covid I don't blame them, they were protecting me and my child. Researcher: like the hours they gave you how where they like visiting time. Pp10: mmm I would stay with he, like for one hour Researcher: one hour okay, so when you come did, they call you to come? Pp10: no, the was something they wrote for us, which times we come in, when the time is over, I would sit outside to wait for the second visiting hour. Researcher: so, you we not coming every day because of transport issue and also at that time there were no lodging mothers Pp10:(agreeing with the head) Researcher: what do you think they could have done to help you bond with you child during covid? Pp10: it would have been nice even if they have discharge us but have a place where we can stay within Steve Biko not Tshwane so that we close to our kids. Researcher: mmm so you are saying they should have made you lodge maybe test you for covid so that you can lodge Pp10: yes, because the are other at Tshwane and when I was discharged the told me is full at the lodger, so they should create something at Steve Biko Researcher: what activities did you do during visiting hours that allowed to bond with you baby Pp10: I will take him and put him here between the breast sit with the bay enough then fed and change the baby, most of the time the baby was sleeping Researcher: so, tell me how did COVID-19 restrict make you feel you? pp10: they made us be in other way because when you at hospital , as I told you I have

kunosawoti omningi namafutha sizolamba angifuni ukuqamba amanga , sidle ilunch before 5 then ebusuku sikhiphe two slice and teat around 22h00, ngapha ngangijabule ngoba ukube ekhaya ngeke ngidle njengokusho kukadokotela ngizodla , ngithole ukuthi okunye akungilungele Researcher: Ngiyaqonda futhi imindeni lapho ingavunyelwe futhi ayikwazanga ukukulethela imali yokuthenga ukudla Pp10: usungaze ungavunyelwa ngisho nokuphuma ewodini, uyaphuma uma uzobona udokotela bese ubuya futhi abavumanga ukuthi sithenge ukudla sidle khona kuphela ukudla. Researcher: what do you think we could have put in place to allow more frequent visiting hours by parents Pp10: ezinganeni zethu kwakulungile ngoba kwakubhalwe ukuthi uze nini, nathi emva kokubeletha kwaba inkinga Researcher: and nobaba lapho bevumele noma nini Pp10: no cha bathi abavakashi, umuntu owafika kwaba udadewethu angilethele izinto zokugeza base bemtshela ukuthi asifuni izivakashi. Researcher: busi thank you our interview is finished pp10: oka thank you. reseacher :bye bye pp10 :bye	stayed in the hospital for two months full, the hospital food is small they were not allowing visitors and bring food , they will tell you about the hypertension and tell us that the shop food have lot of salt and oil and we would be hungry I don't want to lie , eat lunch before 5 then at night give two slice and teat around 22h00, in other side I was happy because if I was home I will not eat as the doctor says , I will eat , only to find out that some for are not good for me. Researcher: I understand plus families where not allowed and they could not bring you money to buy food. Pp10: you can you were not even allowed to come out of the ward, you go out if you will see the doctor then come back and they did not allow us to buy food we can only eat their food. Researcher: what do you think we could have put in place to allow more frequent visiting hours by parents Pp10: for our children it was okay because it was written when to come, with us after delivering it was the problem. Research: and the father where they allowed anytime Pp10: no, they said no visitors, the only person who came was my sister bring me toiletry they told her we don't want visitors. Researcher: Busi thank you our interview is finished pp10: Okay thank you. researcher: bye bye pp10: bye

Interview 11:

Researcher: good day sir how are you? as I have explained to you about the study will just right to the question.

Pp11: good day. Okay

Researcher: Tell me, what do you think are the challenges that hinder/prevent bonding or attachment in the NICU during the COVID-19 pandemic?

Pp11: The main challenge was the strict level 5 lockdown restrictions that prevented fathers from being allowed in the NICU. This separation made it incredibly difficult for me to bond with my baby and establish that important parent-infant attachment.

Researcher: Tell me, what do you think can be used/done to facilitate bonding and attachment in the NICU during the COVID-19 Pandemic

Pp11: Firstly, the hospital could have provided virtual or video calls to allow parents to see and interact with their infants remotely. This would have provided some level of connection and allowed us to feel more involved in our baby's care and implementing measures to ensure the safety of parents, such as mandatory COVID-19 testing and personal protective equipment, could have allowed for limited visitation while minimizing the risk of transmission. This way, fathers could have spent some precious time with their infants, engaging in skin-to-skin contact, talking, and providing comfort.

Researcher: Do you think it is important for you not to be separated from your baby in the NICU? Yes or no and why do you say so?

Pp11: Yes, I believe it is crucial not to be separated from my baby in the NICU. Bonding and attachment play a significant role in establishing a strong emotional connection between a parent and their infant. Being present and involved from the early stages of their life helps to build trust, promote emotional development, and create a foundation for a healthy parent-child relationship.

Researcher: Do you think parents with infants in the NICU were considered when applying COVID-19 rules? Yes/No. Please tell me why you think so?

Pp11: Unfortunately, I feel that parents with infants in the NICU were not adequately considered when applying COVID-19 rules. While I understand the need to prioritize safety, it seemed that the impact on parental bonding and attachment was not given enough weight. Striking a balance between safety measures and the emotional well-being of families could have been achieved with more thoughtful consideration.

Researcher: Please tell me what is bonding for you.

Pp11: Bonding, for me, is the deep emotional connection and attachment that forms between a parent and their child. It involves feeling a strong sense of love, care, and responsibility towards the infant, and it lays the groundwork for a lifelong bond.

Researcher: What do you think are the activities you as a parents can do your infant to ensure bonding?

Pp11: Despite the limitations imposed by the pandemic, there are still activities that can be done to ensure bonding with the infant. These may include talking softly to the baby, singing lullabies, reading stories, and gentle touch such as holding their tiny hand or stroking their head. These activities help create a sense of presence, comfort, and familiarity for the baby.

Researcher: were you able to do these activities during visit to the infant? How did it make you to feel?

Pp11: Unfortunately, due to the restrictions, I was unable to participate in these bonding activities during my visits to the infant. It was disheartening and made me feel a deep sense of loss and helplessness. I longed to be physically present for my baby, to hold them close, and provide the comfort and reassurance they needed.

Researcher: Tell me how the COVID-19 restrictions make you to feel?

Pp11: The COVID-19 restrictions have caused a mix of emotions. On one hand, I understand the need for safety and protecting vulnerable infants in the NICU. On the other hand, the restrictions intensified the feelings of anxiety, isolation, and frustration. It was challenging to cope with the uncertainty and not being able to actively participate in my baby's care.

Researcher: What do you think we can put in place to allow more frequent visiting by the parents

Pp11: To allow more frequent visiting by parents, certain measures can be put in place. These may include implementing a rigorous testing protocol for parents, providing appropriate personal protective equipment, and establishing designated visiting hours to limit the number of people in the NICU at any given time. Creating a safe environment while prioritizing the emotional well-being of both the infant and the parents is crucial

Researcher: thank you Mr Mahlangu

Pp11: thank you