Exploring first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life

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ABSTRACT

The first 1000 days (FTD) of an infant's life is a delicate period where rapid growth and development takes place in all domains, namely cognitively, socially, physically, and emotionally. The period from conception to the age of two years is termed the "first 1000 days" (FTD). During this crucial period, the primary caregiver(s) plays an essential role in creating a secure environment to ensure that children thrive and reach their fullest potential. Therefore, this study aimed to explore first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. The study was guided by the attachment theory of John Bowlby and Mary Ainsworth, which is based on the notion that a child's first attachment experience (initially to the mother) profoundly shapes the social, cognitive and emotional development that follows. A qualitative methodological framework with an exploratory descriptive research design was utilised in this study. The study was conducted in Cape Town, South Africa. A total of 12 participants were purposively recruited from using the door-to-door method as well as snowball sampling. Data was collected by means of in-depth, semi-structured, individual interviews both in person and telephonically, and was thematically analysed. The ethics guidelines such as confidentiality, anonymity, and informed consent were strictly adhered to. Permission to conduct this study was granted by the Human Social Sciences Research Ethics Committee of the University of the Western Cape (UWC). The study found that the first-time mothers were not familiar with the term "the first 1000 days" but they knew the importance of this period in a child's life. In addition, the mothers had different methods of forming an attachment. Furthermore, some of the mothers suffered from postpartum depression and highlighted that it had an impact on the quality of the attachment formed between the mother and the child. Some of the first-time mothers also consumed alcohol and smoked cigarettes during the early stages of their pregnancy due to not knowing their pregnancy status.

KEYWORDS

First 1000 days

Attachment

Nutrition

First-time mothers

Nurturance

Nurturing environment

Nurturing care

Nurturing care framework

LIST OF ABBREVIATIONS

FTD	First 1000 days
StatsSA	Statistics South Africa
WHO	World Health Organization
UNICEF	United Nations International Children's Emergency Fund
SDG	Sustainable Development Goals
ECD	Early Childhood Development
UN	United Nations
NIECDP	National Integrated Early Childhood Development Policy
NDP	National Development Plan
WCG	Western Cape Government
ANC	Antenatal care
BFHI	Baby-Friendly Hospital Initiative
HSSREC	Humanities and Social Sciences Research Ethics Committee
NDOH	National Department of Health

DECLARATION

I declare that the study entitled *"Exploring first-time mothers' knowledge, perceptions and experiences of attachment in the first 1000 days of their child's life"* is my own original work. All the sources used in this study have been acknowledged and are fully referenced.

Name: Crystal Stoffels

Date: October 2023

DEDICATION

This study is dedicated to my daughter Mckenzie Evelyn Stoffels.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 BACKGROUND AND RATIONALE

The first 1000 days (FTD) is a unique period where rapid growth and development take place (Georgieff, Brunette, & Tran, 2015). This period spans from conception to a child's second birthday (UNICEF, 2017). The first 1000 days of life is characterised by an enormous vulnerability which contributes greatly towards a child's long-term social and emotional development (September, Rich, & Roman, 2015). During this period, rapid development occurs in the brain structure and capacity which is essentially dependent on the child's experiences and the environment in which they are (Cusick & Georgieff, 2016). It is important for primary caregivers to create a safe, loving, and nurturing environment by being attuned to their child's needs and responding to their child with love, care, and consistency (Child Gauge, 2013). In this way, the child feels safe enough to explore their environment and interact with their caregivers and other people. These social interactions stimulate connections to the brain and create an emotional bond, also known as attachment, and in turn helps children to understand the world around them (Hong & Park, 2012).

Research shows that optimally functioning brains are associated with healthy attachment to a primary caregiver (Bernier, Beauchamp, Carlson, & Lalonde, 2015; Newman, Sivaratnam, & Komiti, 2015). When children experience reliable and responsive care that is sensitive to their needs, they develop a secure attachment to their primary caregiver, and this attachment is essential for learning, exploration, and overall holistic development. As such, a relationship starts early in the development of a child, and it is predominately between the child and the primary caregiver (Hawk, Mccall, Groark, Muhamedrahimov, Palmov & Nikiforova, 2018). It is, therefore, important to recognise that a child is completely dependent on their caregiver(s) to respond to their needs which may include nurturing them, keeping them safe, healthy, and

well-nourished, being attentive and responsive to their needs and interests (WHO, UNICEF & World Bank Group, 2018). In order for children to reach optimal development, to thrive and have their lives transformed they need to have the five components of Nurturing Care, namely (1) good health, (2) adequate nutrition, (3) responsive caregiving, (4) security and safety, and (5) opportunities for early learning (WHO et al., 2018). However, not all children are raised and/or reared in environments that facilitate healthy attachment to their primary caregivers. This may result in children having difficulties interacting with peers, and they may experience low self-esteem or lack of trust later in their lives. They may also present with behavioural problems and have poor problem-solving skills (Colman & Thompson, 2002; Field, 1987; Bahmani, Naseri, and Fariborzi, 2022). When the primary caregiver responds in a way that is loving and sensitive, he or she facilitates the child's early social and emotional development, promotes secure emotional attachment between the infant and the caregiver, and helps the child to learn. As such, when children receive the necessary support and nurturing care within the first 1000 days (FTD) of their lives, it enables their capacity as they grow into adolescents and adults (Adebiyi, Goldschmidt, Benjamin, Sonn, & Roman, 2021). For this reason, a healthy and secure attachment between the mother and her child is of utmost importance.

Attachment can be understood as any behaviour that results in the individual attaining a closer emotional proximity of another person (Bowlby, 1979). There are two broad types of attachment, namely, secure attachment and insecure attachment. Infants who experience responsive and sensitive caregiver-child interactions develop what is often known as "secure attachment" and which is regarded as the ideal form of attachment. A secure attachment is created when the primary caregiver consistently responds to the child's needs and wants (Fitton, 2012). This is important not only for the child's future health but also for his or her academic achievement, interpersonal relationships and social competence (Ekeh, 2012). In

contrast, insecure attachment results when the primary caregiver shows less emotion and is less sensitive or responsive to the needs of the child (Robertson & Crowley, 2020).

Insecure attachment is subdivided into three further types, namely avoidant, disorganised and resistant attachment (Benoit, 2004). Infants display avoidant attachment when they exhibit no distress when their mother (as primary caregiver) leaves (Benoit, 2004). Disorganised attachment is characterised by infants displaying confusion as to whether they should approach or avoid their mothers (Benoit, 2004). The resistant attachment style is displayed when infants are unbothered about the unavailability or availability of their primary caregivers (Benoit, 2004). Children with resistant attachment may continue with an activity without noticing the caregiver being around (Counted, 2017). All forms of insecure attachment are related to inconsistent care, neglect, or abuse from the primary caregiver(s) (Turner, Beckwith, Duschinsky, Forslund, Foster, Coughlan, Schuengel, 2019; Yilmaz, Arslan, Arslan, 2022).

Research indicates that insecure attachment in early childhood is associated with social and behavioural issues, an increased risk of anxiety and withdrawal, hostility, and defiance (Louw & Louw, 2014; Moullin, Waldfogel & Washbrook, 2014), as well as being a predictor of poor physical health in adulthood (Puig, Englund, Simpson, & Collins, 2013). What this implies is that insecure parent -child attachments may potentially lead to problematic relationships later in the child's life. It is evident that all children form attachments to their caregivers. However, it is important to note the emotional quality of such attachments, for the extent it confers security for the child and whether it is imbued with anxiety., depends on the specific experience of the child with the caregiver. A such, primary caregivers forming an attachment with their child is one of the most important components within the FTD of the child's life, as it holds the potential to protect them against a multitude of social adversities (e.g., poverty and unemployment) that are faced by mothers in the South African context (Matsai & Raniga,

2021). Some mothers find themselves in adverse circumstances which serve as barriers to their health and wellbeing, which ultimately affects the developing child too (Richter, McCoy, Cuartas, Behrman, Cappam, Heymann, Boo, Lu, Raikes, Stein, & Fink, 2021). These adversities limit the primary caregivers in providing a secure level of care to their child due to a lack of resources and the stressful conditions they live in. The FTD is a very critical period where children are very vulnerable, environmental factors play and essential role in their development.

Recent statistics show that many children in South Africa live in home environments where there is a severe lack of stimulation. According to the General Household Survey of 2018, almost half (46,8%) of children between the age of 0-2 years have never read a book or drew a picture (43,1%) with a parent or guardian. The most common form of stimulation was "naming different things" (47,3%), whereas counting (40%) and "talking about different things" (38,8%) with a parent or guardian were less common (Statistics South Africa, 2018). In the General Household Survey of 2021, almost two-thirds (64,6%) of children aged 0-4 years stayed home with a parent or guardian, or with another adult as opposed to attending an early childhood development (ECD) facility. Nationally, only 28,5% of children in this age group attended formal ECD facilities. Attendance of ECD facilities was most common in the Western Cape Province (39,8%) and the Free State province (39,6%) (Statistics South Africa, 2021) These statistics are concerning as the findings form a 20 yearlong study show that children who were raised in unfavourable conditions but received high quality early stimulation matured into adults who earned 25% more than their counterparts which did not receive a similar stimulating environment (Gertler, Heckman, Pinto, Zanolini, Vermeersch, &Walker, Chang & Grantham-McGregor, 2014). As a result of these adversities in low- and middle-income countries, over 250 million children younger than five years old may not reach their developmental potential because of poverty and other adverse conditions (Black, Walker & Fernald, Andersen, Di

Girolamo, Lu, McCoy, Fink, Shawae, Shiffman, Devercelli, Wodon, Vargas-Baron & Grantham-McGregore, 2016).

In the efforts to address these social dilemmas (e.g. poverty), the Millenium Development Goals (2000 – 2015) were developed. In 2015, the Countdown to 2015 report indicated that the attainment of the Millenium Development Goals resulted in a 50% decrease in child mortality for children younger than 5 years. However, newborn babies account for 45% of deaths among children under the age of 5. Furthermore, despite these successes, 65% of children are still at risk for poor development (Lu, Black & Richter, 2016). These statistics paint a clear picture that regardless of how many policies are put in place, the implementation of these policies may still form a challenging part of the problem.

Many international and national policies as well as various organisations in South Africa make extensive references to and recognise the importance of the first 1000 days of a child's life. A report released by the United Nations International Children's Emergency Fund in 2017 elaborated on the subject of the first 1000 days of a child's life within the South African context (UNICEF, 2017). The UNICEF helps both mothers and babies to receive adequate care and nutrition during the first 1000 days by educating families and providing support to mothers for exclusive breastfeeding, scaling up feeding programmes for infants and young children, as well as delivering direct communication to parents and caregivers on their mobile phones through *Mom Connect* (a cell phone programme launched by the National Department of Health in 2014, which is aimed at improving access to antenatal services and to empower women (National Department of Health, NDoH, 2017). Pregnant women who are registered with the service receive weekly SMS messages to provide them with support and information on how to take care of themselves and their babies' health according to their stage of pregnancy and continues after birth until the child is one year old (Hall, Sambu, Berry, Giese & Almeleh,

2017). This programme helps educate mothers on the needs of their babies and supports them in getting the health care they need, both for themselves and their babies (UNICEF, 2017).

Similarly, the Sustainable Development Goals (SDG) provide the basis for achieving equity, prosperity and sustainable growth, and the SDG and related targets outline the environment and services which young children require to ensure that they reach their full potential. The Sustainable Development Goals (SDG) aim to end preventable deaths of newborns and children under five years of age by 2030 (WHO, 2015). The Global Strategy for Women's, Children's and Adolescents' Health (2016 – 2013) has three objectives namely (1) survive; ensure health and well-being, (2) thrive; and expand enabling environments objective (3) transform of women, children and adolescents by 2030. These objectives may help end preventable deaths. These objectives are also in alignment with nine objectives the SDGs. The Global Strategy for Women's, Children's and Adolescents' Health can be regarded as an action plan to advance the health and well-being of women, children and adolescents. Furthermore, it's vision is to create a world where every women, child and adolescent realises their rights to health and well-being (Kuruvilla, Bustreo, Kuo, Mishra, Taylor, Fogstad, Gupta, Gilmore, Temmerman, Thomas, Rasanathan, Chaiban, Mohan, Gruending, Schweitzer, Dini, Borrazzo, Fassil, Gronseth, Khosla, & Costello 2016). The Global Strategy for Women's, Children's and Adolescents' Health is fundamental in achieving the SDG's. As such, the period from pregnancy to age 3 is when children are most vulnerable to be affected by environmental factors (Nurturing care framework reference). UNICEF (2016) defines the under-five mortality rate as the probability of a child dying between birth and before its fifth birthday. Therefore, all countries aim to reduce neonatal mortality to at most 12/1000 live births, and under-five mortality to at most 25/1000 live births (WHO, 2015). Currently the average global neonatal and under-five mortality rates are 17 and 37 per 1000, respectively (UNICEF, 2020). The World Health Organization (WHO) reports that in 2019 an estimated 5,9 million deaths under

the age of five occurred globally, of which 2,5 million occurred in the first month of life (WHO, 2020). UNICEF (2020) has reported global estimates for the neonatal mortality rate per 1000 births as 11 for 2018, 10,8 for 2019, and 10,6 for 2020. Although the actual under-five mortality rate is below the estimated global average, it remains unacceptably high at 34.532.2/1000 births (UNICEF, 2020).

Despite the success of the SDGs, 65% of children are still at risk for poor development. This means that 250 million children in low- and middle-income countries are still at risk, carrying the burden of disease and further highlighting that urgent action is required (Barros & Ewerling, 2016). At the start of January 2016, the United Nations officially rolled out the 17 Sustainable Developmental Goals (SDG) to address a wide range of social burdens and ills by 2030. The SDGs emphasised and focused on (1) zero poverty, (2) zero hunger, (3) good health and wellbeing, (4) quality education, (5) gender equality, (6) clean water and sanitation, (7) affordable and clean energy, (8) decent work and economic growth, (9) industry, innovation and infrastructure, (10) reduced inequalities, (11) sustainable cities and communities, (12) responsible consumption and production, (13) climate action, (14) unpolluted oceans, (15) unpolluted land, (16) peace, justice and strong institutions, and (17) partnerships to achieve the goals. South Africa aligned their policies with the SDGs regarding the social ills and burdens of disease that young children were still experiencing, to improve better early childhood development outcomes.

The United Nations' (UN) objective was to address the challenges that prevent mothers and babies from receiving adequate nutrition and the care they required, by equipping the families with the necessary knowledge pertaining to aspects such as breastfeeding and nutrition, and by introducing improved feeding schemes for infants and young children (UNICEF, 2017). For this reason, an attempt was made by the UNICEF to fill the gaps in collaboration with the

Department of Health and the Department of Social Development as well as the Department of Education. Moreover, these departments work together to achieve early childhood health and wellbeing (Atmore, Van Niekerk & Ashley-Cooper, (2012), and in turn create awareness for vulnerable mothers and parents regarding the importance of the first 1000 days of their child's life (UNICEF, 2017). Despite this, the South African government still faces a range of challenges in the field of ECD, the most significant of which are maternal health care and responsive caregiving, nutrition, early learning and security and safety.

According to the United Nations International Children's Emergency Fund 2017 report (UNICEF, 2017), South Africa is geographically dispersed, which results in some communities not receiving appropriate facilities and information. This means that many communities are underserved and remain disadvantaged as a result of a lack of knowledge, demand, access and service delivery. In order to bridge this gap, the UNICEF attempts to strengthen health systems, improve linkages with Early Childhood Development (ECD) centres in communities with primary care clinics, as well as building capacities of front-line community health care workers to support mothers and to improve knowledge and demand for services, to ensure that no child gets left behind (UNICEF, 2017).

Despite improvements in South Africa's ECD policies, frameworks and interventions, children in South Africa continue to die from preventable causes of death such as Tuberculosis (TB), Human Immunodeficiency Virus (HIV), diarrhoea and pneumonia, which are all infectious diseases or ailments influenced by poor health care and health-seeking behaviour, nutrition and hygiene of pregnant women and children during the first 1000 days (UNICEF, 2017). Approximately 250 million children in low- and middle-income countries are at risk of stunted growth and of not realising their full developmental potential as a result of extreme poverty (Black et al., 2017). Sub-Saharan Africa had the highest incidence of children at risk of not

reaching their full potential due to high risk factors such as poverty and low birth weight (Black et al., 2017). Although South Africa is dedicated to meeting the Sustainable Development Goals (SDG) targets by 2030, its neonatal and under-5 mortality rates remain high. South Africa still has to reach the SDG targets of at most 12 neonatal deaths per 1000 live births, and no more than 25 under-5 deaths per 1000 live births (WHO, 2018). In an attempt to reduce maternal and perinatal morbidity and mortality (WHO, 2016), free antenatal and postnatal care services are provided to pregnant girls and women at government facilities in South Africa, such as community clinics and Midwife Obstetric Units (Western Cape Government [WCG], 2013).

In South Africa, the national and local governments support the first 1000 days (FTD) initiative and are working to implement relevant programmes across the province and country (Republic of South Africa [RSA], 2015). Additionally, the National Integrated Early Childhood Development Policy (NIECDP, 2015) states that "the first 1000 days offer a unique and invaluable window of opportunity to secure the optimal development of the child, and by extension, the positive developmental trajectory of a country" (RSA, 2015, p. 19). The NIECDP emphasises the importance of early learning and stimulation, and of information regarding ECD being publicly available and accessible for all caregivers (RSA, 2015). This policy strives to promote equal access to childhood development services, and to manage and coordinate these services appropriately (RSA, 2015). This is achieved by providing quality services that are of a high standard and appropriate for the child's age (RSA, 2015).

Research indicates that sound early development may benefit a multitude of outcomes later in life, including improvements in socio-emotional adjustment, mental health, brain development, physical health and interpersonal relationships (Silver et al., 2018). Preliminary South African research (Fearon & Roisman 2017) supports international literature, finding that factors

occurring during the first few years of life, and even already during pregnancy, are associated with late cognitive functioning, the development of conduct disorder, the risk of cardiovascular disease, and the regulation of the stress hormone cortisol. Furthermore, the first 1000 days (FTD) of life campaign that was launched by the Western Cape Government in 2016 entitled "Right Start Bright Future" (Thanjan, 2017), highlights the following three significant features of the FTD initiative: (1) adequate nutrition; (2) a nurturing environment, and (3) a stimulating environment where a child has physical, emotional, and mental support (WCG, 2018).

The main aim of the first 1000 days initiative is to provide a safe environment that allows for optimal brain development to occur in the womb and after birth. Moreover, the South African Government has attempted to express the importance of early childhood development through a series of policies that date back to 1995, such as the *White Paper on Education and Training*, or the National Programme of Action for Children in South Africa in 1996 (RSA, 2015). Even though all these policies have been put in place to support both mothers and their babies, there is still uncertainty at this stage whether the implementation of these polices are reaching all mothers, and whether mothers are aware of the services that are at their disposal. Growth and development occur more rapidly during gestation and infancy than in any other period of life, making the first 1000 days a particularly vulnerable time (Martorell, 2017). Therefore, doing research focused on first-time mothers' knowledge, perceptions and experiences of attachment during the first 1000 days of their child's life, may help improve existing interventions, policies and frameworks for mothers and children. Such research could highlight what mothers know or what they do not know about the first 1000 days and what their perceptions and experiences are of this important period, as well as the techniques they use to form an attachment with their child to ensure holistic development in all domains (physically, cognitively, emotionally and socially).

1.2 THEORETICAL FRAMEWORK

The theory of attachment styles of John Bowlby (1907) and Mary Ainsworth (1973) has formed the theoretical underpinning for this study. Attachment theory was first developed by the British psychoanalyst, John Bowlby (1907–1990) (Fraley, 2010). This theory provides an explanation of the functional and healthy lifelong development of a young child (0–2 years) as being influenced by the quality of the mother's maternal attachment (Hooper, 2007). Although John Bowlby is seen as the father of attachment, he received support from Mary Ainsworth (Ainsworth & Bowlby, 1991). Ainsworth used innovation to test the attachment theory developed by Bowlby (Bretherton, 1992). She worked with Bowlby on the effect of separation from the mother in early childhood on the child's personality development (Bretherton, 1992). It is important that infants know that their caregivers are available in all situations. As was mentioned above, there are two forms of attachment, namely secure attachment and insecure attachment.

Bowlby (1969) viewed secure attachment as a lasting psychological and emotional connectedness between human beings. On the other hand, Ainsworth suggested that when a child is not responded to sensitively or often enough, or the mother abandons the baby, an insecure attachment develops; she called this the caregiver sensitivity hypothesis (Papalia & Feldman, 2011). Obviously, a secure attachment between a mother and her baby is ideal as it increases the likelihood of the child's optimal development. However, this theory postulates that there are many crises that could occur and may impact the quality of attachment that could develop, especially in a country such as South Africa where both mothers and children are confronted with various adversities such as poverty, crime, violence, and unemployment (WCG, 2017). For example, if a child is exposed to stressful environments such as violence, poor maternal mental health, and physical health issues as well as homelessness, it may have an impact on the quality of the attachment that will develop between the primary caregiver and

the child. Therefore, this theory is crucial as it provides a framework to understand the implications that the relationship between a mother and an infant has on a child's development (Hooper, 2007; Sandstrom & Huerta, 2013).

1.3 PROBLEM STATEMENT

Despite improvements in South Africa's early childhood development policies and interventions, policies alone are not enough; there is a need to ensure the effective implementation of these policies (UNICEF, 2017). Becoming a mother is an important event in the life of women. Motherhood also comes with diverse responsibilities. Such responsibilities include giving birth, ensuring the child's safety and health, and the fulfilment of the basic physical and social emotional needs of the child, among other factors that act as a blueprint for optimal development (Ngum, 2011). Being a mother is therefore also considered to be a phase in a women's life that is challenging (O'Reilly, 2004). First-time mothers need to adapt to new demands and challenges in their mothering role, but some may find such adjustments difficult and distressing, all depending on their environment(s), perceptions, and resources. Although first-time mothers living in low-income communities have access to health care services, some do not utilise it (Honda, Ryan, Van Niekerk & McIntyre, 2015). Reasons may be living too far from health care facilities, lack of knowledge during the services that are available to pregnant women, as well as poorly resourced facilities. All these factors may have an impact on both the mother and the developing child.

Rapid growth and development occur in all domains of development in the first one thousand days (FTD). During this period children should not merely survive but should thrive and reach their full potential. What happens during this period in a child's life impacts them later in their life. If children do not receive sensitive and responsive care in an environment that is conducive to their optimal development, children may not reach their full developmental potential and it

becomes challenging to help them catch up later (Hall et al., 2017). However, there is a paucity of research related to the subjective experiences of first-time mothers during the first 1000 days of attachment within the South African context.

Therefore, this study intends to fill the gaps in existing literature by highlighting the experiences of mothers during this critical window of child development. This study will assist health professionals to improve existing interventions by contributing to a policy document regarding information about first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life, which can be used to equip future mothers with knowledge and/or information regarding this important period. The development of a policy document may assist health professional students in training to gain knowledge and insight regarding the first 1000 days of life (FTD), the importance of attachment as well as the needs of both the mother and the baby during this critical time. Therefore, it is both essential and beneficial to foreground the insight of those who possess real-life experiences with regard to being first-time mothers. Not doing so, runs the risk of excluding a valuable source of contextual knowledge.

1.4 RESEARCH QUESTION

What are first-time mothers' experiences, understanding and perceptions of attachment during the first 1000 days of their child's life?

1.5 AIM AND OBJECTIVES OF THE STUDY

1.5.1 Aim of the study

The aim of this study was to explore first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life.

1.5.2 Objectives of the study

The objectives of the study were as follows:

- To explore first-time mother's knowledge and perceptions of the first 1000 days of their child's life.
- To explore first-time mothers' experiences of attachment in the first 1000 days of their child's life.
- To explore first-time mothers' methods or techniques in which they form an attachment with their child.

1.6 METHODOLODY

A qualitative approach with an explorative research design was used to explore first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. According to Hennink, Hutter and Bailey (2011), qualitative research is an approach that seeks to embrace and understand the background influences on the research issues. It enables the researcher to study people in their natural settings. In addition, this approach is also utilised to answer questions about the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants' perspective (Babbie & Mouton, 2009; Leedy & Omrod, 2005).

The qualitative research approach is further used when the researcher needs to gather and analyse detailed data that cannot be mathematically or statistically interpreted and analysed. For example, ideas, attitudes or perceptions and experiences (Lancaster, 2005). This specific method is therefore deemed appropriate for this study because this research study seeks to explore first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. Within the qualitative paradigm an exploratory research design was used. An exploratory research design is most useful and appropriate for those studies that are addressing a phenomenon that is relatively unknown in order to gain new insights, new

understandings, new meanings, as well as to identify new knowledge (Silverman, 2000). A more detailed description of the research methodology employed during the execution of this study is presented in Chapter 4. In the section that follows, the significance of this study is highlighted.

1.7 SIGNIFICANCE OF THE STUDY

It is difficult to overstate the importance of the first 1000 days of life, as this delicate period lays the foundation for all future development. The quality attachment between the mother and her infant within the first 1000 days warrants particular consideration as it is within the bounds of this relationship that a child is cared for, fed, and kept healthy. As such, there is a need-to-know what first-time mothers are experiencing and to understand what knowledge and support may be absent. Therefore, the significance of the findings is to create awareness and to add to the growing body of knowledge in a South African context. In this way, one can accumulate knowledge and shed light on first-time mothers' overall knowledge, perceptions and experiences of attachment and the methods used to form an attachment to their babies within the FTD.

1.8 DEFINITION OF TERMS AND CONCEPTS

The first 1000 days of life: the period from conception to a child's second birthday (UNICEF, 2017).

Attachment: the emotional bonding between two individuals (Louw & Louw, 2014); the terms *attachment* and *bonding* are used interchangeably.

First-time mother: a woman who has given birth to a child for the first time (Mercer, 2004).

Nurturance: pervasive attention, emotional investment, and behaviour management by parents or caregivers to foster children's development **(**WHO, 2018).

Nurturing care: responsive caregiving, early learning, safety and security, health and nutrition (Nurturing Care Framework, 2018).

Nurturing environment: an environment that is safe, sensitive to child's health, nutritional needs, emotionally supportive, developmentally stimulating and observing and responding to the infant's sounds, gestures, movements, and verbal requests (WHO, UNICEF, 2018).

Nurturing Care Framework: a road map to action (WHO, 2018), which was developed to respond to the Sustainable Development Goals of investing in children's first 1000 days in order for them to reach their full potential. The Nurturing Care Framework encompasses five domains which are significant to a child's development, namely nutrition, health, early learning, responsive care, security and safety (WHO, 2018).

1.9 OUTLINE OF CHAPTERS

This thesis consists of six chapters, each discussing a different component of the research process.

Chapter 1 comprises the introduction of the study and provides a thorough background and rationale of the study. It describes the research question, aim and objectives of the study. In addition, it provides a brief introduction of the theory utilised, the research methods applied and the significance of the study.

Chapter 2 provides a detailed discussion of the theoretical framework used in the study. This study was underpinned by John Bowlby's (1990) and Mary Ainsworth's (1973) attachment theory.

Chapter 3 provides an in-depth literature review on the first 1000 days of life, attachment, nutrition, and health care facilities. These subjects are explored and discussed with reference

to both international and local literature. The chapter concludes with a summary that makes a connection between the various concepts and the literature discussed.

Chapter 4 describes the research methodology utilised in this study. An in-depth discussion of the qualitative methods used are presented alongside the study population and sample, data collection procedure, data analysis, data verification, ethical considerations, and the limitations of the study.

Chapter 5 is a presentation of the results of the study with a discussion on the main findings, according to themes and subthemes, while integrating the findings with previous research as presented in Chapter 3 and linking the findings with the theoretical framework as outlined in Chapter 2.

Chapter 6 is the concluding chapter of the study. It summarises the conclusions of the study, the contributions of the study, limitations of the study and makes recommendations for future research.

1.10 CONCLUSION

In this chapter, the background and rationale for the study are thoroughly discussed, the theoretical framework is established, the problem statement is noted, an introduction to the research methodology is highlighted and the significance of the study is briefly clarified. Furthermore, the research question was formulated, along with the research aim and objectives of the study, and the key terms and concepts were defined. Lastly, the contents of all the chapters are outlined to conclude this chapter. In the next chapter, the theoretical framework of the study is discussed.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 INTRODUCTION

The foundation for this study was described in the previous chapter. The purpose of this chapter is to provide a theoretical understanding of first-time mother's knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. John Bowlby's (1969) and Mary Ainsworth's (1973) attachment theory was employed as the theoretical underpinning of the study.

2.2 JOHN BOWLBY'S AND MARY AINSWORTH'S ATTACHMENT THEORY

The attachment theory was developed by the British psychoanalyst, John Bowlby (1907–1990), in an attempt to understand the intense anguish a child experiences when they are separated from their primary caregiver (Bowlby, 1982). This theory was based on the notion that an infant's first attachment experience (initially to the mother) profoundly shapes their social, cognitive, and emotional development that follows (Bowlby, 1969). When a child is not with their primary caregiver, they tend to cry and cling to prevent separation, to the extent that they would even try to re-establish closeness to the perceived caregiver (Bowlby, 1982). Developing a positive attachment relationship or close bond with a primary caregiver has long-term benefits for a child, such as developing a higher self-esteem and being more self-reliant as they mature and establish a set of attachment behaviours that provide for more satisfying relationships in the future (Thompson, 2000). As such, the basic premise of attachment theory, according to Bowlby (1980), is that individuals experience the emotional availability of attachment figures in their lives, and this in turn shapes their feelings of security and trust in others. Bowlby (1980) concluded that where caregivers are consistent and emotionally available, children experience themselves as being cared for, and in turn view intimate relationships as positive; this is referred to as secure attachment.

When children experience their caregivers as unresponsive and unavailable, they perceive themselves as unloved and enter intimate relationships with ambivalent or negative feelings. This type of attachment could negatively influence how children form and maintain relationships later in their own lives. Conversely, when children experience caregivers as available and responsive, they feel reassured that the caregiver will be available when needed (Waters & Cummings, 2000). It also contributes to the child's sense of belonging and self-worth. Bowlby recognised that attachment is a complex behavioural system that serves to protect young children in times of danger and is one of the most important developmental tasks in infancy, as the primary need of children during the first year is to become attached (Altenhofen, Clyman, Little, Baker, & Biringen, 2013). Bowlby (1982) further states that attachment theory offers a useful perspective on support-seeking (from the child) and support-provision (from the primary caregiver).

Bowlby (1982) further theorised that the attachment relationship between the child and the caregiver changes over time as the child matures. He explains that attachment past the infancy stage changes into what is called internal working models. In terms of Bowlby's explanation, an internal working model is a framework through which the child judges their relationship with their primary attachment figure (Bowlby, 1969). The quality of individuals' internal working models of attachment can predict and explain how they will process a wide array of social information (Dykes & Cassidy, 2011). The internal working model consists of expectations concerning the availability of the caregiver when the child needs support from the primary caregiver. Waters and Waters (2006) also concluded that parent–child attachment indicates the level to which children have trust or confidence that they can depend on primary caregiver(s) as a support structure during stressful times. Children with secure attachment may excel academically and have greater social competence in comparison to their counterparts who are insecurely attached (Ekeh, 2012). Insecure attachment is characterised by the child's

inability to use his or her parent as a source of comfort, or as a secure base (Bowlby, 1969). Children with insecure attachments present with behavioural problems, difficulties interacting with peers, a low self-esteem, and poor problem-solving skills (Coleman & Thompson, 2002), which may be due to their previous experiences of the unavailability of an attachment figure. When children experience themselves as being cared for and protected, they develop what Bowlby terms secure attachment.

Mary Ainsworth (1973) advanced the attachment framework as a system for evaluating parent–child relationships (Ainsworth, 1973). Ainsworth identified three distinctive attachment styles, namely secure, insecure, and resistant (Bretherton, 1992). Secure attachment is observed when infants are distressed by the unavailability of primary caregivers but comforted when they are near them. Secondly, insecure attachment is demonstrated when infants become distressed upon the departure and return of their primary caregivers. The resistant attachment pattern is displayed when infants are unbothered about the unavailability or availability of their primary caregivers. Children with resistant attachment will continue with an activity without noticing the caregiver being around (Counted, 2017). Main (1986) discovered a fourth type of attachment style known as disorganised attachment, which is observed when infants seem disoriented and confused about attachment seeking, and display tendencies of both insecure and resistant styles. These different attachment relationships could all have an influence on the overall relationship between the primary caregiver and their child (Table 2.1)

Table 2.1: An explanation of the different attachment styles

(Ainsworth, Blehar, Waters, & Wall, 1978; Fleming, McCall, Moore, Rodgers & Stewart, 2008)

Attachment style	The child	The primary caregiver
Child and caregiver behaviour patterns before the age of 18 months		
Secure attachment	• The caregiver is used as a secure base for the child to explore the world around them. • The child cries when the caregiver leaves, seeks proximity, and is consoled or comforted on return.	• Responds in a manner that is appropriate and consistent to the needs of the child.
Insecure attachment	• There is little to no distress when the primary caregiver leaves the child and there is no effort to maintain contact when or if the child is picked up by the primary caregiver.	• Little to no response to the distressed child. • Crying is discouraged and independence is encouraged.
Resistant	• The child is preoccupied with the caregiver's availability and seeks contact but resists angrily when it is achieved. • Not easily calmed by a stranger.	• Inconsistency between appropriate and neglectful responses.
Disorganised	• Lack of coherent attachment strategy shown by disoriented behaviours such as approaching but with the back turned.	• Frightened or frightening behaviour, withdrawal, negativity, and maltreatment.

The attachment styles are also linked to the responses of the caregiver. Attachment theory is informed primarily by the relationship between the child and the primary caregiver. Weiss (1986) maintains that infants remember their attachment to their primary caregiver. For adults that were securely attached as an infant, the primary caregiver is an irreplaceable caregiver.

This view is reiterated by De Winter, Salemink and Bosmans (2018) in their study on the role of the primary caregiver in attachment. Raby and Dozier (2019) also affirm that the memory of attachment in early life is carried forward into adulthood. This submission is aligned with Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978). Campbell, Adams, & Dobson, 1984) who states that as infants transition to adulthood, attachments may be formed with other substitute caregivers, thus satisfying their basic attachment needs and contributing to the development of their identity.

2.3 APPLICATION OF THE ATTACHMENT THEORY

The focus of the attachment theory was mainly on the parent-child relationship and no other aspects of development when Bowlby first developed his theory. As such, this theory highlights the importance of the first few years of mother-child attachment, noting that this primary relationship sets the scene for future relationships. In terms of the parent-child relationship attachment is imperative to ensure holistic human development. This theory can also be applied to any life domain in which people feel threatened or distressed and which there is a person who can provide a safe haven. The quality of attachment between a mother and infant depends on the manner in which the parent response to the needs of the child. This can either be in the form of protection, comfort or nourishment which is associated with secure attachment or insecure attachment where the mother is less responsive to the infant's needs and wants. Bowlby (1982) described attachment as an "invisible umbilical cord" between the parent and child. He states that if the parent is unresponsive to their infant's needs, this umbilical cord is broken which in turn influences the quality of attachment that is formed between the parent and their infant. In a developing country, such as South Africa, where the majority of people are living in conditions that are plagued with adversities, such as poverty and inequality (Tomlinson, Cooper & Murray, 2005), it is often difficult for parenting that meets the needs of a child to take place, which can result in the formulation of

negative attachment styles (Tomlinson et al., 2005). Negative attachment styles have been found to be a contributing risk factor to the development of psychological and social dysfunctions (Siegel, 1999), as well as slowed language development and undesirable behaviour in school (White & Webster-Stratton, 2014). Therefore, this framework is relevant to this study as it helps one to better understand how a child forms an attachment to his or her primary caregiver and the implications that the parent-child relationship has on the development of the child. In addition, this framework provides insight into the most important aspect of this study, namely attachment.

2.4 CONCLUSION

This chapter described John Bowlby's (1907) and Mary Ainsworth's (1973) attachment theory and its relevance and applicability to this study. The attachment theory is based on the deep connection between two people, which in the context of this study is the mother and her baby. The kind of attachment that is developed between the mother and baby plays an important role for the infant's overall development and is linked to various outcomes. Therefore, it is crucial that the caregiver creates a safe environment and provides adequate nutrition to ensure the infant's optimal development.

The literature review in the next chapter will provide an in-depth discussion on other research conducted on this topic.

CHAPTER THREE

LITERATURE REVIEW

3.1 INTRODUCTION

The previous chapter provided the theoretical framework for understanding first-time mother's knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. This chapter provides critical insight into research conducted on the topic. The first 1000 days, attachment, nutrition as well as health facilities form the main points of the content discussed in this chapter.

3.2 THE FIRST 1000 DAYS OF LIFE

Early childhood is said to be the most vulnerable time that impacts greatly on the long-term social and emotional growth of the child (September, Rich, & Roman, 2015). From conception until the age of two is a very important period for an infant and is termed the first 1000 days of a child's life (Berg, 2016). During this phase, a child experiences immense physical and emotional development (September, Rich, & Roman, 2015). As such, the infant undergoes cognitive development as the white and grey matter within the brain increases. This contributes towards developing the networks that connect different regions of the brain, leading to it doubling in size (Berg, 2016). Therefore, factors contributing toward optimal development, including the external environment, have an important influence on the developing child (Gao, Lin, Grewen, & Gilmore, 2016). Caregivers form part of the external environment of an infant. The presence of a trusted caregiver with whom a bond can be formed, allows the infant to experience optimal development during early childhood (September, Rich, & Roman, 2015). With that in mind, policymakers and organisations in South Africa have recognised the importance of this period in a child's life.

The South African Government has attempted to express their concern about early childhood development through a series of policies that date back to 1995, for example the *White Paper*

on Education and Training, or the National Programme of Action for Children in South Africa in 1996 (RSA, 2015). The Children's Act 38 of 2005 was a further attempt to ensure that children would receive appropriate care and would be protected from any form of abuse, neglect, and harm (Children's Act 38, 2005). The services that are provided for South African children by this Act include protective services for children who have been abused, exploited, or neglected; youth and childcare centres; and foster care services (Proudlock & Jamieson, 2009). It also promotes the child's growth through offering early childhood development programmes, support programmes and primary prevention programmes (Proudlock & Jamieson, 2009).

The prevention programmes are aimed at avoiding abuse or neglect of the child before it has occurred. Implementing these programmes are more cost-effective for the state as it results in a lower need for programmes that are directed towards already abused children (Gubbels, van der Put, Stams, Prinzie, Assink, 2021; Proudlock & Jamieson, 2009). These programmes involve home-based care where the focus is on improving the family structure, and on promoting better parenting skills. There is also assistance for families to access the necessary services, such as schooling, water, electricity, and health care. In addition, it speaks about providing psychological rehabilitation for children who have suffered abuse (Gubbels et al., 2021; Proudlock & Jamieson, 2009). This Children's Act 38 of 2005 serves as the legal protection of the child and must be considered before any decisions are made within the South African government that may possibly affect a child (Children's Act 38, 2005). In 2013, the National Development Plan (NDP) 2030 was launched. The aim of the NDP was to eradicate poverty and reduce inequality by 2030. One such way to achieve this is to increase the quality of education so that all children have at least two years of early childhood education before entering primary school.

In South Africa, there are policies, plans and frameworks which support and emphasise the importance of early childhood. For example, the South African Children's Act (Children's Amendment, Act 41 of 2007), and the National Development Plan 2030. The South African National Curriculum Framework for children from before the birth of the child to the age of four years focuses on the care, development and learning of babies, toddlers, and young children. The NCF is aimed at adults, including parents and caregivers, who interact with this group of children, as there is a growing need to support the development of skills and learning of children during the first 1000 days of their life (Ebrahim & Irvine, 2012). When parents are aware of and understand the development of children's cognitive, social, emotional, and physical skills and the developmental milestones, they are able to make an investment in and promote child development to improve the trajectory of South African children's lives.

3.3 MOTHERS EXPERIENCES OF ATTACHMENT IN THE FIRST 1000 DAYS

To birth a child for the first time can be a positive yet very overwhelming experience for first time mothers. First time mothers often have difficulty transitioning into their new roles and responsibilities. First time mothers often have difficulty forming an attachment with their infants for various reasons of which could be that the mother suffers from postpartum depression which influences their interactions with their baby and/or may have difficulty being responsive to the infant's needs, another reason could be that mothers do not have adequate information on how to establish interactions with their babies (Pinar & Pinar, 2022). According to a study that was conducted by Pinar & Pinar (2022) transitioning into the role of a mother impacted on how they formed an attachment with their infant. As such, mothers had concerns on the transmission of attachment and had a difficult time meeting the needs of the infants due to a lack of information on ways to form an attachment with their infant (Pinar & Pinar, 2022). Another study reported that 40% of first-time mothers felt indifferent when holding their baby for the first time (Idun, Bongaardt, Lyberg, Sommerseth & Dahl, 2018)

.Although mothers reported being overwhelmed by the role of a mother and not having a concrete approach as to how to form an attachment with their baby, they knew that responsive caregiving and forming an attachment with their infant was imperative (Pinar & Pinar, 2022), and therefore utilised different methods to develop an attachment such as cuddling, singing, talking. All of these routines may lead to favourable outcomes for the infant's development (Pinar & Pinar, 2022).

The health and well-being of the mother (or primary caregiver) is fundamental as it may have a significant impact on the health and well-being of the child. Research indicates that a pregnant woman's well-being, diet, and stress levels likely affect the development of her unborn child. After birth, the child's physical environment, nutrition, and relationships may have a long-term effect on their well-being and health. During this stage, a child's ability to grow can be affected by maternal and child nutrition and health (Likhar, Baghel & Patil, 2022)

The effect of smoking and consuming alcohol during pregnancy and after birth has serious health implications for both mother and child and may be associated with the acquisition of cognitive and behavioral development skills (Wehby, Prater, McCarthy, Castilla & Murray, 2011). Therefore, parents' healthy behaviour is important for effective parenting as everyday behaviors, particularly healthy lifestyles, may influence maternal and child mental health and well-being. In addition, the mental health of parents and caregivers may significantly affect the quality and dynamic of the parent–child relationship, thereby enhancing or hindering effective parenting practices and responsive caregiving
(Adebiyi, Goldschmidt, Benjamin, Sonn, Rich & Roman, 2022)

First time mothers often report feelings of sadness, during and after the birth of their baby. This in turn may impact on the mother-child interactions. Mothers who suffer from

postpartum depression are less likely to responsive to their infants needs and wants. Several studies have shown detrimental consequences of maternal depression for the child's development. A meta-analysis found that symptoms of depression during pregnancy negatively affected the infant's socio-emotional development (Madigan, Oatley, Racine, Fearon, Schumacher, Akbari, Cooke, & Tarabulsy, 2018). Another meta-analysis found pre- and postnatal maternal symptoms of depression and anxiety to be adversely related to child development (Rogers et al., 2020). Moreover, a meta-analysis by Barnes and Theule (2019) found a small relationship between maternal depression and insecure attachment in one- to three-year-old children. A recent study has shown symptoms of postpartum depression to be related to infant social withdrawal at 2-3 and 8-12 months of age, but not at 4-7 months (Stuart, Stougard, Smith-Nielsen, Egmose, Guedeney & Væver, 2022). In a cohort study, parental depression before and after birth was related to child depression and failure to achieve educational milestones (Brophy, Moore, Patton, O'Connor & Asvar, 2021). Parental symptoms of depression over the perinatal period have been found to be related to behavioral and regulation difficulties in children, and this relationship was mediated by postpartum parenting stress (Fredriksen, Van Soest, Smith & Moe, 2019). Further, maternal prenatal and postnatal symptoms of anxiety and depression are related to poorer parent-infant interaction (Hakanen, Flykt, Sinervä, Nolvi, Kataja, Pelto, Karlsson, Karlsson, & Korja, 2019).

Maternal depression may increase irritability and hostility towards the infant and disengagement from the infant. A meta-analysis (Bernard, Nissim, Vaccaro, Harris & Lindheim, 2018) found a small negative relationship between levels of maternal depression and maternal sensitivity in the first year postpartum, and that a clinical level of depression may have a particularly negative influence on sensitivity, thus giving some support to the notion that mothers with more symptoms of depression might respond less sensitively to infants' cues than those with fewer depressive symptoms. Parenting and qualities of the

mother-infant relationship might thus mediate the possible negative impact of maternal mental health on child development**.** As such, first time mothers perceived and experienced positively however they have encountered a series of challenges which often impacted on the mother-child relationship.

3.4 ATTACHMENT

As was mentioned above, attachment refers to the emotional bond between two individuals (Louw & Louw, 2014), specifically between the mother and child. A child's development is significantly shaped by the nature of their attachment to their primary caregiver during infancy. To ensure that infants develop to their fullest health potential they require, among various other factors, a nurturing and consistent relationship with their primary caregiver (Van Rosmalen, Van Der Horst, & Van der Veer, 2016). Sensitive and responsive caregiving plays an essential role in the infant's physical, cognitive and emotional development. According to the Nurturing Care Framework developed by the World Health Organization (2018), responsive care involves sensitivity and awareness of a child's actions to communicate their needs and wants, as well as the caregiver's capacity to respond to those signals. The child's emotional and social development is strongly affected by the quality of their attachment to their caregiver (Benoit, 2004). Responsiveness strengthens the affective bond between the caregiver and infant, and increases the infant's sense of security (WHO, 2004). Moreover, research shows that the type of attachment style children develop is important for their overall development and is linked to various future outcomes (Benoit, 2004).

In order for an infant to develop to their full healthy potential they require, among other factors, a nurturing and consistent relationship with a primary caregiver (Van Rosmalen, Van Der Horst, & Van der Veer, 2016). Sensitive, responsive, and nurturing caregiving from a primary caregiver, is an important factor in the healthy development of a child (World Health Organization, 2004). Sensitive and responsive caregiving is linked to the development of a

secure attachment style between an infant and their mother (Benoit, 2004). A secure attachment style is prompted by a caregiver who is sensitive and responsive to an infant's needs, which results in the infant seeking out the caregiver in times of need while also feeling safe enough to explore their world or environment (Dunst & Kassow, 2008; Moullin et al., 2014). Ainsworth also described multiple types of insecure attachment which are unfavourable and are formed when a primary caregiver is aggressive, insensitive, absent, or inconsistent with an infant (Louw & Louw, 2014; Moullin et al., 2014).

The attachment relationship that an infant has with a primary caregiver plays an important role in social, emotional, and cognitive development throughout their childhood and later in life (Dunst & Kassow, 2008; Louw & Louw, 2014). Secure attachments can result in an infant being more autonomous, having more self-confidence, being able to better manage their emotions, and to form positive peer relationships (Louw & Louw, 2014; Moullin et al., 2014). On the other hand, insecure attachment has been found to be related to social and behavioural issues with an increased risk of internalising behaviours, such as anxiety and withdrawal, and externalising behaviours, such as hostility and defiance (Louw & Louw, 2014; Moullin et al., 2014). Attachment has also been found to have an influence on executive functioning (EF), which relates to school success and later life competency (Bernier, Beauchamp, Carlson, & Lalonde, 2015; Moullin et al., 2014). A study conducted by Bernier et al. (2015) found that kindergarteners who had a secure attachment to their mother performed better on EF tasks than those not securely attached. In a developing country such as South Africa, adversities such as poverty, inequality, crime, and trauma are prominent issues for many people (Tomlinson et al., 2005).

According to a Statistics South Africa report (2017), more than 50% of South Africans were living in poverty in 2015, and these numbers appear to still be on the increase. Poverty is a risk factor for the development of insecure attachment (Moullin et al., 2014) and often makes it

difficult for adequate and responsive parenting to take place (Tomlinson et al., 2005). Voges, Berg and Niehaus (2019) reviewed the studies that had documented attachment styles in Africa and found that a total of 3 232 mothers had been studied in South Africa, Kenya, Zambia, Mali, and Uganda. All these countries were situated within adverse settings, yet 53–87% of caregiver-child relationships were noted to have been considered to be securely attached in these studies (Voges, Berg, & Niehaus, 2019). Research from other African countries also demonstrated high secure attachment rates; Kenya reported 62% and 90% secure attachments in two different studies, Mali 87%, and Zambia 59% (Voges, Berg, & Niehaus, 2019). As was mentioned above, the type of attachment a child develops is dependent on the support, responsiveness, sensitivity, and quality of care they receive from their caregiver (Bosmans, Bakermans-Kranenburg,Vervliet, Verhees & van IJzendoorn, 2020)

Four studies on attachment have been conducted in various regions of South Africa. Minde, K., Minde, R., & Vogel, (2006) research was predominately in the Northern Sotho township, Alexandra (near Johannesburg). Cooper, Tomlinson, Swartz, Landman, Molteno, Stein, McPherson & Murray, 2009) conducted their respective research studies in the Western Cape Province in the Xhosa-speaking township, Khayelitsha (near Cape Town). Tomlinson (2001) conducted one of his research studies in Hanover Park (also near Cape Town). All four of these South African studies showed high secure attachment figures, ranging respectively from 54% in Hanover Park (Tomlinson, 2001), 58% in Alexandra 62% and 74% in Khayelitsha (Cooper et al., 2009; Tomlinson et al., 2005).

3.5 SINGLE PARENT HOUSEHOLDS' VS TWO PARENT HOUSEHOLDS

It is important to understand how this may have an impact on the developing child and the quality of attachment that is formed between the primary caregiver and the infant. A vast amount of primary socialisation occurs within a child's home, and the structure of the family

influences what the child is exposed to (Davids, Roman & Leach, 2015). According to a Statistics South Africa report (2018), in 2016 48% of children in South Africa were living in single parent homes, with single mothers while only 40% of children in South Africa lived with both of their parents.

According to Goodman and Greaves (2010) "children born to married parents achieve better outcomes, on average, both at school and in terms of their social and emotional development, then children born into other family forms." Single parents tend to have longer work hours, have more responsibilities and provide less support to their children than married parents, which may result in the children of single parents getting less attention (Davids et al., 2015). Married parents have the ability to combine resources, such as finances, and are able to delegate tasks with regards to child rearing, all which has been found to assist children in becoming more emotionally and psychologically adjusted later in their life (Davids et al., 2015; Goodman & Greaves, 2010).

Children who are reared in two parent families are likely to be more securely attached to their primary caregiver. Children raised by two parents tend to be successful at school; as opposed to children raised by a single parent, who are more likely to experience a variety of cognitive, emotional and social problems (Mpofu & Tfwala, 2022). Up to 75% of children born to single parents are more likely to give birth as teenagers (Kedro, 2016). Children of single parents are more likely to have a higher school dropout rate, be more involved in delinquent activities including the use of alcohol and drugs (Chavda & Nisarga, 2023). However, Malachi (2019) highlighted that in the single parent family structure, there may be a stronger bond between the parent and the child than in the two-parent family structure. As a result of being the lone parent that is always with and available to the child, there is more one on one time available to be with the child, which could create a strong bond (Malachi, 2019). Single parents who are able to

form an attachment have a secure attachment with their children creates a sense of security which may result in a positive outcome.

Globally, the United States (23%) and the United Kingdom (21%) have the highest number of children living in single parent households (Chavda & Nisarga, 2023), and about 6.8% of children live in single-parent households worldwide (Chavda & Nisarga, 2023). Among the single parents in the world, single mothers constitute the majority of 84.3% which indicates that women are primarily responsible for child-rearing (Chavda & Nisarga, 2023). According to the General Health Survey of 2022, 44.1% of children lived with their mothers only, 50.3% of children lived with both their parents in South Africa. As such, family structure is imperative or a child's holistic development as it influences their caregiving environments.

3.6 NUTRITION

The term "the first 1000 days" (FTD) first gained momentum when the *Lancet* published its series on maternal and child undernutrition in 2008, suggesting that nutrition interventions be focused on the period during pregnancy and the first two years of a child's life (Pentecost & Ross, 2019). The importance of the first 1000 days has received growing international recognition (Pentecost & Ross, 2019). As such, growth and development occur more rapidly during pregnancy and infancy than during any other period of life, making the first 1000 days a particularly vulnerable time for the effects of malnutrition (Martorell, 2017). Moreover, maternal and infant nutrition within the first 1000 days has been shown to be linked with infants' later physical growth, brain development, cognitive functioning, socio-emotional adjustment, and a multitude of health-related concerns (Cusick & Georgieff, 2016; Martorell, 2017). Therefore, the care infants receive within the first 1000 days of their lives either enables their capacity as they grow into children, adolescents, and adults, or hampers their capacity to grow to their full potential.

Adequate nutrition is one of the five domains of the nurturing care framework (WHO, 2018) and is an important aspect of a child's needs in the first 1000 days of life. There is a growing body of evidence indicating that optimal nutrition during pregnancy and early childhood is important for brain functioning throughout childhood and adulthood (Menon, 2015). Research shows that many children under the age of five years are at risk of not achieving their full developmental potential due to malnutrition, which affects brain development, physical growth, motor development, and physical activity (Ngure et al., 2014). Therefore, a child's development should be carefully monitored in order to identify poor growth and prevent stunting in children (Hall et al., 2017). As such, adequate nutrition, and care during the first 1000-day window influence not only whether the child will survive but also his or her ability to grow, learn, thrive, and rise out of poverty (UNICEF, 2017). Therefore, this study aims to create awareness for first-time mothers and future mothers on the importance of their health to ensure a positive pregnancy outcome and the holistic development of their infant during the first 1000 days of his or her life.

In the first 1000 days of a child's life there is rapid growth and development of the brain and other organs (Martorell, 2017). Although the brain develops continuously throughout one's lifespan, research has shown that the late foetal period to around three years of age is an opportunistic time for influencing brain structure and functioning for the present and for one's future abilities (Cusick & Georgieff, 2016; Georgieff, Brunette, & Tran, 2015). Key nutrients at specific times are important factors in the development of an infant's brain (Georgieff et al., 2015). In the first 1000 days, nutrition plays an important role in assisting individuals to reach their developmental potential with regard to education, job opportunities, mental health in their futures (Cusick & Georgieff, 2016), and promotes cognitive development, which is a predicting factor for school achievements (Nyaradi, Li, Hickling, Foster, & Oddy, 2013). Infants who do not receive adequate nutrition in the first 1000 days are at risk of stunting or growth failure,

caused by malnutrition or insufficient nutritional intake and exposure to multiple diseases (Martorell, 2017). Stunting may be described as a severe form of malnutrition that reduces children's growth and development rate (WHO, 2014). In other words, if children are undernourished and do not grow as expected, it may result in them being too short for their age. Approximately 1,5 million children suffer stunting in South Africa (UNICEF, WHO & World Bank, 2018). Research has found that stunting has adverse consequences on an individual's economic potential, greatly heightens the risk of living in poverty as an adult (Martorell, 2017), can result in delays and impairment of cognitive functioning, and has been linked to negative health and educational outcomes (Dewey & Begum, 2011). According to Dewey and Begum (2011, p. 7), "the prevalence of stunting is highest in Africa". According to Statistics South Africa (2018), in 2016 27,4% of children under the age of five were considered to be stunted, there was a 3,6% incidence of severe acute malnutrition, and the fatality rate due to malnutrition was 8%.

Child stunting and children being overweight are the leading causes of child malnutrition in South Africa, with 27% of children under five still stunted and 13% being overweight (Granlund & Hochfeld, 2019). These indicators are especially important given that, despite the nutrition interventions that the government has implemented – such as the child support grant (Granlund & Hochfeld, 2019) – stunting and overweight are still staggeringly high. According to Statistics South Africa (2021), approximately 683 221 South African households with children aged five years or younger reported experiencing hunger in 2021. In 2022, 148,1 million children under five worldwide were stunted (WHO & UNICEF, 2023).

Internationally, an estimated 35% of all children's deaths are a result of undernutrition, measles, or pneumonia (Shonkoff et al., 2012). If one compares this to the global prevalence of stunting in 2016, which was 22,9% (WHO, 2017), one can see that the prevalence of stunting is higher in South Africa compared to the global prevalence percentage. Policies are being

passed in order for the importance of nutrition to be highlighted. According to Statistics South Africa (2018), the South African Cabinet approved such a policy in 2015, namely the National Integrated Early Child Development Policy, which covers six components that are of importance for the foundation of early childhood development for all children, namely maternal health care, nutritional support, child health care, social services, support from primary caregivers, and stimulation for early learning. Therefore, it is important for first-time mothers especially in low-income communities to become aware of and knowledgeable about the health implications and nutrients required for both them and their baby, in order to prevent the rick of malnutrition and stunting during early childhood.

The *Lancet* Series of 2008 also focused on the first 1000 days of life. The *Lancet* 2008 Series highlighted that there is a need for a national priority for better nutrition programmes, improved intersectoral approaches and greater coordination in the global nutrition system of international agencies, donors, academia, civil society and the private sector. According to the Nurturing Care Framework, adequate nutrition formed an important part of children's needs in the first 1000 days of life. The effect of malnutrition is severe during the first 1000 days because growth and development occur more rapidly during pregnancy and infancy than in any other period over the human lifespan.

One of the greatest challenges within South Africa is poverty: poverty causes food insecurity, malnutrition and severe cases of hunger. According to the South African Child Gauge (2017), the percentage of child hunger has decreased from 79% in 2003 to 62% in 2015, where 17% are black African children, 13% are coloured children and 1% white children which has a positive effect on children's overall health and well-being (Atmore et al., 2012; Jamieson, Berry, & Lake, 2017). An estimated 27% of children are malnourished according to the South African Child Gauge (2020), as a result of having a lack of access to nutritious food in early

childhood. In the Western Cape, where all the participants who partook in the study came from, the child hunger rates were 10% in 2018.

Hunger and the lack of proper nutrition could result in poor overall health and educational outcomes for children, which could contribute to furthering inequalities and perpetuating the cycle of poverty. Over the past 10 years, the stunting rate has remained the same, namely that 27% of children under the age of five suffer from stunting, making this a significant form of malnutrition in South Africa (Aboud & Prado, 2018; Jamieson et al., 2017; Prado et al., 2017). Therefore, primary caregivers – and especially first-time mothers – need to have access to health care services to ensure that their child's needs are met and that they are aware of any information that are provided by health care professionals that may assist them in taking care of their babies.

3.7 ACCESS AND SERVICES PROVIDED BY HEALTH CARE FACILITIES AND PROFESSIONALS

The right to health care is a basic human right and citizens should receive good quality health care services (Abrahams, Thani, & Kahn, 2022). Useful, reliable, and appropriate information and services need to be provided to expectant mothers so that they would have the necessary knowledge on how to take care of themselves as well as their baby. Women who have access to quality maternal health information, are more likely to make informed decisions regarding their health (Mwangakala, 2021). According to Houghton (2020), health professionals often feel overwhelmed by the number of patients they need to attend to, and therefore it may be challenging to provide patients with the necessary guidance.

Women living in rural areas within South Africa are faced with various challenges to access health care facilities. Travelling to these facilities, poor infrastructure, and lack of services and services delivery are some of the main reasons why women struggle to access health care

facilities and their services. Public transportation is often the only option in low-income communities. However, it is expensive, and the time spent travelling or walking to access transport facilities may be agonising. Additionally, women living in rural areas spend most of their time with household responsibilities within the rural environment, which leaves little time for travelling (Mccray, 2004). After the apartheid regime ended in 1994, the new South African government has tried to improve and expand health care facilities for all South African citizens.

After Nelson Mandela was instated as the new president of South Africa and the Apartheid regime ended, most public health care facilities were declared to be free services (Kautzky & Tollman, 2008). Nevertheless, there were no solid uniformity of administration, which made the monitoring of these facilities difficult (Kautzky & Tollman, 2008). As such, with the fallen Apartheid era, it was decided by the government that the fragmented units will fall under one Ministry of Health. This decision was followed with various issues and disagreements among the personnel (Kautzky & Tollman, 2008). The 2012 audit into health facilities found that only 30% of health care facilities were complying with the criteria for positive and caring staff attitudes nationally, and only 25% of primary health care facilities (WHO, 2017). Other issues that had occurred with this new change was the lack of trained health care workers. The World Health Organization (WHO) found that in 2003 60% of South Africa's public health care institutions were lacking in staff. This was as a result of the majority of health care practitioners working in the private sector (Kautzky & Tollman, 2008). The private health care sector is characterised by skilled and educated practitioners and is mainly utilised by wealthy community members (Marten, McIntyre, Travassos, Shishkin, Longde, Reddy, & Vega, 2014). Here is it already evident that the health care facilities were not adjusting well to the changes. The government aimed to increase access to these services for the previously disadvantaged racial group(s) (Burger & Christian, 2018).

Many of the problems with the South African health care system are as a result of the apartheid regime because there was discrimination between racial groups. This in turn impacted on the quality and access to health care facilities (Baker, 2010). Apartheid was characterised by unequal access to social facilities, which marginalised the black community. However, it is argued by Burger and Christian (2018), that access to these health care facilities remains unequal. This is also true for the welfare of young children (Hall et al., 2017). Even though health care facilities are free, there is a perception that they are of poor quality, especially in rural communities. As a result, individuals make limited use of these facilities (Honda, Ryan, Van Niekerk, & McIntyre, 2015). The South African government released a Green Paper in 2011 regarding National Health Insurance, which stated that the following five years should focus on improving the quality of care within public health centres (Honda et al., 2015). However, Burger and Christian (2018) found that the government's proposal was not realistic, and the vulnerable subgroups who are living in rural areas, are still unlikely to have access to proper health care facilities.

A more recent study that was conducted in KwaZulu-Natal on access and utilisation of health care services found that many pregnant women do not see the importance of attending the antenatal clinic (Sibiya, Ngxongo, & Bengu, 2022). The findings reveal that there was a lack of information about times and days of service provision, client's rights to health care, antenatal care attendance and other health care issues. Antenatal care (ANC) services are provided by skilled professionals to pregnant women to ensure that they get the best health care services for both the mother and the baby during and after pregnancy (Amungulu, Nghitanwa, & Mbapaha, 2023). The World Health Organization (WHO) requires women to attend the antenatal care services provided by health care facilities during pregnancy as well as at least four comprehensive ANC visits before the birth of the baby. Approximately 83% of pregnant women attended ANC at least once during their pregnancy worldwide, and only 64% women

attended the four recommended visits (Wouldes & Lester, 2019), while 47,5% pregnant women started their ANC visits late (Smith, Burger & Black, 2019). although 97% of South African women have access to antenatal services (Kaswa, Rupesinghe & Longo-Mbenza,2018). As such, the Metropolitan region of Cape Town was said to be the worst performing distinct in the Western Cape, with a late attendance rate of 45,5% (Smith et al., 2019). A study that was conducted in Namibia found that 71,6% of mothers made use of ANC services, whereas 28,4% did not make use of ANC services because they did not find ANC services important or necessary (Amungulu, Nghitanwa, & Mbapaha, 2023). This is problematic as they may not be made aware of the valuable information regarding both the baby and the caregiver, provided by health care professionals.

Obstacles that prevent women utilising ANC services include (1) negative attitudes about health workers, (2) long distances to and from health care facilities, (3) lack of knowledge regarding ANC services, and (4) attitude towards pregnancy (Amungulu, Nghitanwa, & Mbapaha, 2023). Furthermore, the lack of maternal health information at health care facilities may lead to most pregnant women not being aware of the benefits of ANC visits (Mwangakala, 2016). If pregnant women were provided with proper health education and were made to understand the importance of ANC services, their attitude might have been favourable regarding ANC services. The knowledge that pregnant women have regarding ANC determines how they think or feel about ANC services. Therefore, it is important to ensure that mothers, especially first-time mothers, are equipped with the necessary knowledge regarding ANC services, so that they can utilise these services earlier in pregnancy to avoid any complications.

Health care professionals play an important role at routine antenatal and postnatal visits by ensuring that mothers and young children receive the interventions that are intended to improve their health and wellbeing. Maternal and child health outcomes is inextricably linked to antenatal care as these visits include access to imperative early childhood development services

and health interventions regarding pregnancy and childbirth (Hall et al., 2017). The last review of early childhood care in South Africa revealed that the percentage of antenatal bookings has increased from 54% in 2014 to 61% in 2015 (Hall et al., 2017), which may be due to the valuable information disseminated in antenatal visits regarding self-care and caring for the unborn child. Although mothers are encouraged to attend their first antenatal visit prior to 20 weeks, 40% of first antenatal visits occurs only after 20 weeks into pregnancy (Hall et al., 2017). This may be due to mothers' lack of knowledge regarding their pregnancy status, especially in the case of unplanned pregnancies (Haddad, Makin, Pattinson, & Forsyth, 2016), or barriers to seeking antenatal services such as challenges with transportation (Fagbamigbe & Idemudia, 2015). Moreover, statistics show that immunisation is being taken more seriously as the rate of children who are completely immunised by their first birthday has risen from under 70% in 2002 to 89% in 2015 (Hall et al., 2017). According to Hall et al. (2017), this improvement may be attributed to mobile services such as *Mom Connect*, a cell phone service provided to mothers living far from health facilities.

Interestingly, the Tshwane Declaration highlights that all public hospitals and health facilities had to be accredited with the Baby-Friendly Hospital Initiative (BFHI) by 2015, which promotes, protects, and supports exclusive breastfeeding practices (DoH, 2011). However, in 2016, 49/52 birthing units were BFHI-accredited in the Western Cape (Western Cape Department of Health, 2016), indicating that not all hospitals within the Western Cape have a BFHI status. Moreover, the Kangaroo Mother Care (skin-to-skin contact) is promoted in hospitals for being a safe way to care for sick neonates, neonatal emergencies, and for hypothermia in infants presenting with severe acute malnutrition, as well as for premature neonates (English et al., 2018). Very often pregnant women are not receiving the necessary information from health professionals.

A report on the FTD Roadshows in the Cape Town Metro revealed that health professionals had not realised the importance of health care services delivered during this critical period and how these services can either have an advantageous or detrimental effect on the optimal development of a child's brain as well as its overall health (Thanjan, 2017). It was also found that many of the health professionals did not realise the importance of conducting mental health screening and that mothers' stress and mental health affect the child's brain development during this critical period (Thanjan, 2017). These findings indicate that continuous education for health professionals is essential for delivering excellent services to the public, with the health professionals being fully informed about the critical role they play in mental health screening for mothers as well as antenatal and postnatal health care. It is important for first-time mothers to have access to quality health care services, as it is their first time rearing a child and they may have a lack of knowledge on how to take care of their child and/or the services that are at their disposal, which in turn may have an impact on the developing child.

3.6 CONCLUSION

The literature presented a wide variety of aspects that influence or highlight the importance of the first 1000 days. This chapter discussed the importance of this time period, as well as the relevant plans and policies that have been implemented within South Africa to support mothers and their infants. Thereafter the focus was on the intervention strategies that this country has currently implemented and the status of health care facilities within South Africa. Lastly, the importance of nutrition was discussed and its effects on the developing child as well as the mother. Finally, the importance of forming an attachment was also discussed in depth. The next chapter will be discussing the methodologies and technicalities of this research study, involving the process of data collection, data analysis and so forth.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 INTRODUCTION

This chapter outlines the methodology used to conduct the study in order to achieve the aim and objectives of the study. The research approach, research design, research population and sampling, as well as the research setting will be explained in detail. In addition, this chapter provides a discussion of the data collection and analysis procedures as well as the ethical considerations of the study.

4.2 RESEARCH APPROACH AND DESIGN

A qualitative research methodology was utilised to conduct this study. A qualitative approach allows for a rich description of a phenomenon that not much is known about. This research approach is therefore deemed suitable for this study as it helps one to gain an understanding of the complex nature of this topic from the participants' perspective (Babbie & Mouton, 2009, Leedy & Omrod, 2005). This approach enabled the researcher to explore the phenomenon more in depth through the behaviour, observations, and attributes of the research participants (Rossi, 2011), and to get a holistic overview of the participants' experiences regarding this specific phenomenon.

A research design can be regarded as the plan that determines how the research will be conducted (Terre Blanche, Durrheim, & Painter, 2014). The study made use of an exploratory descriptive research design, as it aimed to explore and become familiarised with first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. This kind of design is typically used when the researcher seeks to gain a better understanding of a phenomenon, and to develop a structure for another study to follow in the future (Babbie, 2013). An exploratory descriptive research design was an adequate method to

use for this study because there is a limited amount of scientific knowledge available regarding this topic, and there was also a need to describe and understand this topic from the participants' perspectives and worldviews (Given, 2008), because the experiences of different mothers rearing their child in the first 1000 days differ. This method also increases one's understanding of the phenomenon concerned and provides more in-depth information on a phenomenon of which there is not enough information available (Fedasiuk, 2020; Tenny, Brannon & Brannon, 2022). In addition, this research design highlights the specific details of a situation and focuses on how and why questions (De Vos, Strydom, Fouché, & Delport, 2002) and provides intensive examination of the phenomena and their deeper meanings (Rubin & Babbie, 2005).

4.3 RESEARCH SETTING

The research setting is the physical, social, and cultural site or place in which the researcher conducts the study and where the data is collected (Randa & McGarry 2023; Given, 2008). The participants of this study resided in five communities (Kraaifontein (4 participants), Brackenfell (2 participants), Mitchell's Plain (3 participants), Philippi (1 participant), Ravensmead (1 participant), Eerste River (1 participant) in the Cape Town Metro, South Africa. The motivation is represented in the statistics that positioned the Cape Town region as having one of the highest number birth registrations since 2017 (N = 63 800), which is among the top five district municipalities in South Africa (WCG, 2017). A total of 1 003 307 births were registered in South Africa in 2020 (StatsSA, 2021). Furthermore, it is important to understand the demographic profile of Cape Town to provide a context for this study's subject matter (WCG, 2017). Many young children are greatly affected by a variety of socioeconomic inequalities related to poverty, poor nutrition as well as violence (Atmore, 2013; Hall, 2019; RSA, 2015). As such, middle-to-low-income communities in Cape Town were selected to include a diverse sample of biological first-time mothers. This is motivated by a need to create greater awareness and gain an understanding regarding the way in which first-time mothers are

able to rear their child in a context of high unemployment rates, poverty, and under-resourced health care facilities. These adversities are important to grasp as they may increase the likelihood of negative adverse effects on the mother, while she cares for the foetus from conception until her child reaches the age of two years (Moore, McDonald, Carlon, & O'Rourke, 2015; Tomlinson et al., 2005).

4.4 POPULATION AND SAMPLING

A population is a collection or totality of all objects, subjects or members that conform to a set of specifications (Polit & Hungler, 2000; Shukla, 2020). In a demographic context, a population is a collection of people who have the required experiences or characteristics that are needed to answer specific research question. The population for this study consists of 12 first-time mothers from the Cape Town Metroplitan area, in order to gain an in-depth understanding of their knowledge, perceptions and experiences of attachment in the first 1000 days of their child's life. The participants were all first-time biological mothers, they were over 18 years old, married, single, or divorced, and they were also from diverse social and economic backgrounds.

Sampling can be defined as a small portion of measurements drawn from a population which the researcher is interested in studying (De Vos, Strydom, Fouché, & Delport, 2011). The 12 participants for this study were purposively selected, that is, the sample was selected with specific criteria in mind and according to the knowledge of the population, its elements and nature (Creswell, 2014), and according to the study's needs (Benoot, Hannes, & Bilsen, 2016). The participants were selected using the door-to-door method, as well as through snowball sampling. Snowball sampling means that the researcher identifies one or more individuals from the population of interest and after they had been interviewed, they refer the researcher to other members of the same population who could also be interviewed (Robson

& McCartan, 2016). The researcher initially started recruiting participants using the door-knocking method due to having a difficult time finding participants that suits the criteria for this study. The researcher knocked on the doors of various people and gave them a brief introduction about the study and asked if they would be interested in taking part in the study. The researcher asked the participants if they know of any first-time mother that suits the criteria of the study and that would be willing to participate in this study. This was a very interesting and enjoyable way of recruiting participants, and it also gave the researcher insight into geographical areas in which the participants were from (Davies, 2008), and in turn it this helped the participants to see that the researcher is friendly and easy to talk to (Davies, 2008). This may help the participants feel more comfortable when they are interviewed. This is how the two methods (snowball sampling and the door knocking method) were integrated. Thus, snowball sampling was the main method used in this study. Furthermore, the inclusion criteria were as follows:

1. The participants needed to have a child aged between 1 week and 2 years.
2. The participants needed to be a biological first-time mother.
3. The participants had to reside in the Cape Town Metro area. By having this background, participants could share their knowledge, perceptions, and experiences of this very crucial phase of their child's development and have first-hand experiences of rearing their firstborn.

The exclusion criteria were:

1. Mothers not rearing a baby for the first time.
2. Mothers residing outside of the Cape Town Metro.
3. First-time mothers whose baby did not fall in the age group of between 1 week and 2 years.

4.5 PILOT STUDY

Before the interviews for the main study took place, a pilot study was conducted. The interview schedule was tested on two first-time mothers who were also part of the main study. A pilot study helped the researcher to adjust, amend questions and the data collection process where needed (Glesnie, 2006; Fraser, 2018). After the pilot study, the interview schedule was made more concise and simplified for use in the main study. In this way the participants were able to understand the questions better. The interview schedule initially consisted of 10 questions, which were modified, and three additional questions were added with sub questions. How the questions were phrased remained the same but there was a need to include sub questions so that the interview could be more engaging, which in turn allowed for probing as well as clarity-seeking questions. Some of the questions in the interview schedule were unclear and therefore changes were made. In order for the questions in the interview schedule to be absolutely clear, the use of a pilot study was of great value.

4.6 DATA COLLECTION

Permission to conduct this study was granted by the Humanities and Social Sciences Research Ethics Committee (HSSREC), with Ethics Reference Number: HS20/10/24. Data was collected by means of in-depth semi-structured individual interviews, which involved a two-way exchange of information (Hennink, Hutter, & Bailey, 2011). The semi-structured interviews allowed for an exploration of the topic by the use an interview guide which contained a list of open-ended questions designed to guide the interview in a focused yet flexible and conversational way (Jamshed, 2014). A self-constructed interview schedule (Appendix C) with open-ended questions was used to guide and facilitate the interview process (Babbie & Mouton, 2008; Creswell & Poth, 2017). Interviews were conducted at the participants' homes or at a time and place most convenient to participants. Some interviews were also conducted online

via the online platform, Microsoft Teams, as requested by the participants. In addition, many participants preferred this method of conducting interviews due to the COVID-19 pandemic as well as the participants' working and busy home lives.

The aim, purpose, and the research objectives of the study (Appendix A) were clarified with the participants before starting the interview, and after the participants had signed a consent form (Appendix B). Consent was also obtained to audio-record the interviews. Participants were assured of confidentiality and anonymity, and pseudonyms were used during the interviews. Participants were also informed that participation was voluntary and that they could withdraw at any time they wished to do so. At the end of each interview, the research asked the participants whether they needed any assistance. This was to ensure that the participants were not harmed in any way or experienced any negative trauma during the interview.

Twelve interviews were conducted, and audio-recorded to capture the essence of the discussion. Data was collected until a point of data saturation was reached. The interviews were approximately 40–60 minutes in length, and were conducted online, at the interviewee's home, or at a suitable place and time best suited for the participant(s), in both English and/or Afrikaans, in the participants' language of choice (Babbie & Mouton, 2008). In the case of a participant being illiterate, the consent process was verbal, whereby the researcher explained the study to the participant, verbally providing all pertinent information regarding the purpose of the study. The data collection tools were field notes that were taken and audio-recordings that were made of the proceedings, thus capturing non-verbal cues during the interviews (Maree, 2007). All the audio-recordings were translated and transcribed verbatim to inform the data analysis.

4.7 FIELD NOTES

Field notes are helpful to record the researcher's observations, feelings and impressions (Mason, 2007). Although interviews may be audio-recorded, it is recommended that field notes be taken, especially when audio-recordings fail to capture any non-verbal communication (Roller & Lavrakas, 2015). Field notes are useful to remind researchers not to forget vitally important information, and when participants do not feel comfortable to express themselves on audiotape when disclosing information that is sensitive (Roller & Lavrakas, 2015). As the researcher, I was able to go back to my field notes to remember information that had slipped my mind.

4.8 DATA ANALYSIS

Data analysis refers to a process whereby data is converted into useful information (Moore, 2015). Thematic analysis was utilised to interpret the data as this method may help the research to develop a story from the data received (Neuendorf, 2019). Thematic analysis involves recognising ideas, patterns and themes that unfold within the data that is being analysed. This study made use of Braun and Clarke's (2013) six steps of thematic analysis.

Step 1: Familiarising oneself with the data.

The researcher familiarised herself with the data by listening to the interview audio-recordings, transcribing the data verbatim, and documenting it (Braun & Clarke, 2013). These activities deepened the researcher's familiarity with the data. Braun & Clarke (2013) stressed the significance of the researcher becoming intimately familiar with the data by reading and rereading it. Thus, the researcher immersed herself in the data by repeatedly reading through the interview transcripts in order to completely familiarise herself with the contents. The 12 transcripts were first read without any coding taking place, in order to get an overall idea of what the data set contained. In addition, after the first read through of the data set, the researcher

made notes which were to assist her in the next phase of analysis, which is generating initial codes.

Step 2: Generating preliminary codes.

As soon as the researcher was familiarised with the data, initial codes were recognised in which possible themes could be investigated and documented. A code identifies a feature of the data that appears interesting to the researcher (Braun & Clarke, 2013). Boyatzis (1998, p. 63) referred to a code as "the most basic segment, or element, of the raw data or information that can be assessed in a meaningful way regarding the phenomenon" (as cited in Braun & Clarke, 2006, p. 18). This phase started when the researcher had read and familiarised herself with the data and had created an initial list of interesting concepts that appear repeatedly in the data (Braun & Clarke, 2006, 2013). The researcher then manually coded the data by highlighting clips of text to indicate potential patterns (Clarke & Braun, 2013).

Step 3: Searching for themes.

Themes were sorted by the researcher with different codes, in which subthemes were organised to represent the main theme. Searching for themes began when all the data was initially coded and included in a list of codes that were identified across the data set (Braun & Clarke, 2013). According to Braun and Clarke (2006, p. 10), a theme encapsulates something important about the data with regard to the research question and "represents some level of patterned response or meaning within the data set". The codes identified by the researcher were combined to form potential overarching themes by combining relevant coded data extracts within the identified themes (Braun & Clarke, 2013).

Step 4: Reviewing themes.

The researcher reviewed and refined the themes, to ensure that they were coherent with the main themes. Braun and Clarke (2013) advise that during this phase, the researcher should determine whether themes cohere together meaningfully, or form a unified whole meaningfully, and whether there are clear and identifiable distinctions between the different themes. Part of this process included reviewing all extracts for each theme to determine whether they appear to form a coherent pattern. Thereafter, the validity of individual themes in relation to the data set was considered, and also whether the themes reflected the meanings that were evident in the data set as a whole (Braun & Clarke, 2013) This was accomplished by re-reading the entire data set to determine whether the themes were meaningful in relation to the data set and to code any additional data within themes that was missed in the earlier coding stages (Braun & Clarke, 2013). Once this phase was completed the researcher had an idea of what the different themes were, how they pieced together, as well as the overall story they conveyed about the data (Braun & Clarke, 2006, 2013).

Step 5: **Defining and naming themes**

The themes were named and defined based on the commonly used concepts expressed by the participants. According to Braun and Clarke (2013) it is important to ensure that each theme contains important information that would answer the research question. During this phase the researcher identified the essence of what each theme meant and also determined every aspect of what each theme captures (Braun & Clarke, 2013). Part of the analysis in this phase involved the researcher identifying whether or not themes contained any subthemes (themes within themes).

Step 6: Reporting the findings.

The research findings were reported by providing examples of data extracts that represented a concise, logical, and coherent account of the participants' experience, perceptions and

understanding aligned with the aim and objectives of the study. Braun and Clarke (2013) note that the major task in this phase is to tell the complicated narrative of the data in a way that assures the reader of the quality and soundness of the researcher's analysis. The presented results (in the following chapter) provided sufficient evidence of the themes and subthemes within the data as evidenced by the provision of ample data extracts to demonstrate the prevalence of such themes and subthemes (Braun & Clarke, 2006, 2013).

4.8.1 SELF-REFLEXIVITY

Reflexivity refers to the act of a researcher examining the influence that his or her own beliefs and thoughts might have had on the collection of the data and on the way, it is interpreted (Babbie, 2013d). The researcher aims to be aware of his or her thoughts and feelings and how those may influence the study. Brendan Gough (2017) mentions three forms of reflectivity, namely (1) personal, which involves the researcher's personal knowledge and experiences that may affect the topic of the study; (2) professional, referring to the participant's professional perception; and lastly, (3) disciplinary reflectivity, where the researcher's perception of the theory is analysed. Reflectivity therefore encourages individuals to explore ways in which the researcher's involvement with a particular study may influence, act upon, and inform the research. Within this study, the researcher recognised that she is a young woman and a first-time mother herself, and thus ensured that all the participants were treated with the necessary respect and empathy. Therefore, a personal reflection on feelings and experiences was employed regularly throughout the research process, to ensure that her personal bias would not influence the study in any way. Furthermore, a reflective journal and recordings were kept by the researcher to reflect on every process throughout the research study. In this way the

researcher was aware of how her own experiences may influence any decisions and interpretations that were made.

4.8.2 DATA VERIFICATION AND TRUSTWORTHINESS

To increase trustworthiness the researcher began by ensuring that the research questions were clear, and the data collection process and analysis were rigorous and transparent. The four cardinal principles according to Lincoln and Guba (1985), namely credibility, transferability, dependability, and conformability, were applied to ensure the trustworthiness of the research.

Credibility refers to the researcher having to assure that the study measures what it is intended to measure (Shenton, 2004). This was ensured by frequent debriefing with the supervisor and/or co-supervisor, examining previous research findings to evaluate the degree to which the results were congruent with previous studies, iterative questioning during the interviews and peer debriefing (Shenton, 2004).

Transferability refers to the extent to which the findings of one study can be applied to other situations. The researcher achieved transferability by making use of purposive sampling in collecting sufficient thick data and providing a background to the study (Rubin & Babbie, 2005). The research methodology was clearly described such as the methods of data collection and the selection of participants used in the study. Transferability was further ensured by transcribing the research thoroughly through continuously reflecting on the information.

Dependability refers to the researcher's attempts to account for changing conditions in the phenomenon chosen for the study and the changes in the design created by increasingly refining the understanding of the setting (Lincoln & Guba, 1985). This was ensured by describing what was planned by the researcher through the research design, how the implementation was executed as well as providing a detailed description of the data gathering process. Furthermore,

the researcher used the same data collection tools, namely an interview schedule, for each of the different participants (see Appendix C). Other forms of data gathering the researcher made use of in addition to the semi-structured interview schedule included recording the proceedings and taking field notes to capture non-verbal cues during the interviews.

Conformability refers to the objectivity of the study (Morrow, 2005). In addition, it measures how well the inquiry's findings are supported by the data collected (Lincoln & Guba, 1985). The researcher ensured conformability by applying introspective reflexivity, by demonstrating an unbiased attitude towards the participant's views and by acknowledging the participants as being the experts on the topic. The researcher also ensured that the true findings of the research are reflected and not the bias or ideas of the researcher.

4.9 ETHICAL CONSIDERATIONS

The term *ethics* refers to a set of moral principles that offers behavioural expectations pertaining to the correct conduct towards respondents, students, assistants, and experimental subjects (De Vos et al., 2009). As such, research should always be ethical due to the rights of the participants who are involved in the research (Barrow, Brannan, & Khandhar, 2021). To protect the participants' rights of voluntary participation, confidentiality, consent, no harm and anonymity the following ethical principles were considered in this study:

4.9.1 Permission to conduct the study

Permission to conduct this study was granted by the Human Social Sciences Research Ethics Committee of the University of the Western Cape (UWC).

4.9.2 Informed consent

The information sheet includes all the necessary information about the research. After the participants had been informed about the information on the aim and objectives of the study,

they were asked to sign a consent form agreeing to participate should they be willing to (Appendix A).

4.9.3 Voluntary participation

It is important for participation to always be voluntary (Leedy & Omrod, 2010; Neuman, 2000). Therefore, the researcher ensured that all the participants were informed that they had the right to withdraw at any given time without penalties. All the participants were assured that they could withdraw or stop the interview at any time if they should wish to do so. Participants were selected only if they were willing and available to participate in the study; in this way voluntary participation was applied.

4.9.4 Confidentiality and anonymity

All the information provided by the participants were kept confidential as all the participants have the right to privacy (De Vos et al., 2009; Leedy & Omrod, 2010). To maintain confidentiality and anonymity, pseudonyms instead of the participants' real names were used. In addition, all the participants were ensured that only information related to the study would be collected and it would not compromise their privacy. The interview transcripts and notes, including the auditory recordings of the interview sessions, were protected by the researcher at all times. There was limited access to these files, as the transcripts were kept in a locked drawer and the audio-recordings were secured by means of encrypted data in a file on a computer, which was also protected by a password. The data was only shared among the researcher and the appropriate (co-)supervisor. All physical documents related to the participants were kept safe and would be shredded after five years. The auditory recordings were disposed after they had been transcribed. Throughout this research process, respect and honesty towards the participants were always maintained.

4.9.5 Doing no harm

The risk of harming the participants was minimised as participants should be protected from any psychological harm (Leedy & Omrod, 2010). The study attempted to minimise the risk of harm to any individual at all times. If any of the participants were to experience any form of discomfort during the interview process, they were reminded that they could withdraw at any stage. They were encouraged to seek psychological support should any therapy be needed, and the relevant referrals to organisations who provide therapeutic services were consulted before the commencement of the interviews. None of the participants who participated in this study requested therapeutic services after their interview was conducted.

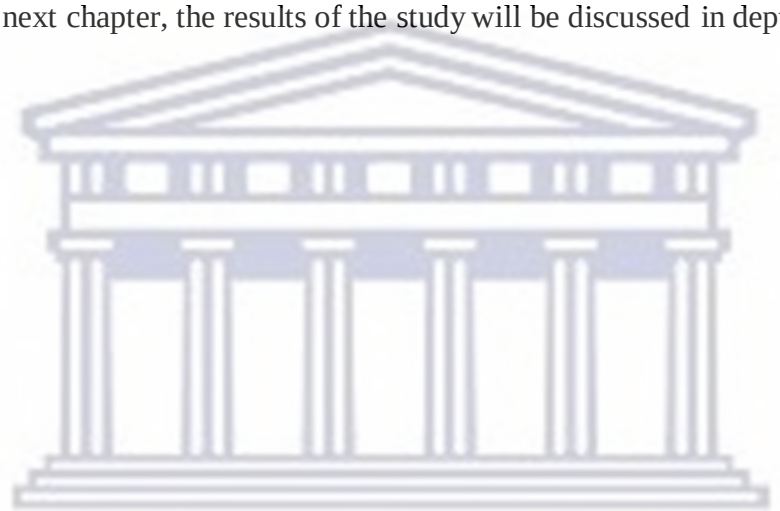
4.10 LIMITATIONS OF THE STUDY

Factors that are out of the researcher's control and that may place constraints on the research methodology and conclusions can be described as limitations (De Vos et al., 2011). The limitations that were encountered in this study included the number of participants used to gather data from. Data saturation was reached after the 12 interviews. Secondly, this study was initially planned to recruit all race groups. However, most of the participants were from the so-called "Coloured" race group. It would have been more beneficial for this research if it could have included a more diverse racial population, especially when considering the variety of racial groups living in South Africa. In South Africa the term "Coloured" is often used to refer to an ethnicity group that is of mixed descent (De Wit, Delport, Rugamika, Meintjes, Möller, Van Helden, Seoighe, & Hoal, 2012). Ten of the 12 mothers who participated in the study were "Coloured". Two participants formed part of the "Black/African" grouping. There were participants recruited from other ethnicity groups; however, they were either not available or not willing to participate in the study. Lastly, many of the first-time mothers

were single. Therefore, the results were limited and could not be generalised to a larger population of low socioeconomic class first time mothers in South Africa.

4.11 CONCLUSION

The research methodology of the study, including information about the different stages of the research process such as the research approach and design, population and sampling, data collection and data analysis, was provided in this chapter. In addition, the experiences of the research process were described by the researcher, which contributed to the trustworthiness of the study. In the next chapter, the results of the study will be discussed in depth.



CHAPTER FIVE

PRESENTATION AND DISCUSSION OF FINDINGS

5.1 INTRODUCTION

The purpose of this study was to explore first-time mother's knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. A qualitative research methodology was utilised to collect data by means of one-on-one interviews (in person interviews as well as telephonic interviews). Thematic analysis was employed to analyse the data which provided an indication of the context of the conversations and its attached meaning to the information collected from the participants. Therefore, this chapter presents direct quotations from the participants' interviews, and specific literature to support their statements, clustered into themes and subthemes. These themes and subthemes assisted in the quest to reach the aim and objectives of the study, and ultimately in adding to the growing body of knowledge emerging in South Africa on the first 1000 days of an infant's life.

The achievement of the research aim was guided throughout the research process by the following objectives:

- To explore first-time mother's knowledge and perceptions of the first 1000 days of their child's life
- To explore first-time mothers' experiences of attachment in the first 1000 days of their child's life
- To explore first-time mothers' methods or techniques in which they form an attachment with their child.

5.2 DEMOGRAPHICS

Table 5.1 provides an overview of the demographic information of the participants of the study in terms of their age, area of residence, employment status, marital status, age and gender of the child.

Table 5.1 Demographic information of the participants

Participant	Age	Area of residence	Employment status	Marital status	Age of the child	Gender of the child
P1	18	Phillipi	Unemployed	Single	1 year and 5 months	Boy
P2	18	Mitchell's Plain	Unemployed	Single	1 month and 1 week	Boy
P3	22	Eerste River	Unemployed	Married	1 month old	Boy
P4	30	Kraaifontein	Employed	Married	1 year old	Girl
P5	25	Kraaifontein	Employed	Single	2 years old	Boy
P6	23	Brackenfell	Unemployed	Single	5 months	Girl
P7	27	Kraaifontein	Employed	Single	1 year and 2 months	Boy
P8	18	Mitchell's Plain	Unemployed	Single	1 week	Boy
P9	30	Kraaifontein	Employed	Married	7 months	Boy
P10	29	Ravensmead	Employed	Single	2 years old	Girl
P11	21	Brackenfell	Employed	Single	2 years old	Girl
P12	18	Mitchell's Plain	Unemployed	Single	5 months and 2 weeks	Girl

5.2.1 Age of the mother's

The ages of the first-time mothers who participated ranged from 18 to 30 years of age.

5.2.2 Marital status

Nine of the 12 mothers were single, and three of the first-time mothers were married.

5.2.3 Employment status

Six of the first-time mothers were unemployed and six were employed.

5.2.4 Area of residence

The participants that were recruited and willing and available to participate in this study came from different parts of the Cape Town Metro, such as Phillipi, Mitchell's Plain, Ravensmead, Eerste River, Kraaifontein and Brackenfell.

5.2.5 Age of the child

All the first-time mothers in the sample had a child aged between 1 week and 2 years.

5.2.6 Gender of the child

Regarding the gender of the children, there were five girls and seven boys.

5.3 PRESENTATION AND DISCUSSION OF THE FINDINGS

The data analysed consisted of verbatim-transcribed, semi-structured interviews with 12 participants, as well as field notes which emerged as the results of the study. These results are described and divided into themes and subthemes that had been developed from the collected data codes. To verify the emerged themes, reference was made to relevant literature and theory to validate the findings of the study. The themes and subthemes that emerged from the analysed, transcribed, collected data are tabulated in Table 5.2, followed by a discussion of the themes and subthemes.

Table 5.2 Themes and subthemes

Themes	Subthemes
Theme 1: Becoming a mother for the first time	1.1 Challenging but rewarding 1.2 Baby blues
Theme 2: First-time mothers' knowledge, perceptions, and experiences of the first 1000 days (FTD) of their child's life	2.1 To know or not to know 2.2 A first-time mother's needs 2.3 A baby's needs 2.4 Lifestyle changes
Theme 3: Methods of forming attachment	3.1 Play time 3.2 Breast is best. 3.3 Singing as a way of forming an attachment
Theme 4: The importance of support during the first 1000 days (FTD) and beyond	4.1 It takes a village to raise a child: A good support system. 4.2 Information provided to first-time mothers by health care professionals

5.3.1 THEME 1: BECOMING A MOTHER FOR THE FIRST TIME.

Becoming a mother for the first time is seen as a milestone in many women's lives. Although this is a very exciting period, it is also one that is characterised by diverse responsibilities. Mercer (2004) has suggested that becoming a mother is a phenomenon that does not cease once a woman gives birth, instead this process continues as she transitions into the role of motherhood. This suggests that becoming a mother is a dynamic process which requires further

transformations once the baby arrives. As such, becoming a mother involves moving from a known, current reality to an unknown, new reality (Mercer, 2004). For the participants in the study, transitioning to motherhood brought many mixed feelings and experiences, as is evident in their responses below:

> *"Being a mother at a young age, it's kind of complicated because I can't do everything I did before I became pregnant. Uhm, that's it, it's just complicated. It's not the same as before" (*Participant 1, Age 18, Single, Unemployed)

> *"Oh, my word, it's been a real roller-coaster, trying to figure out my life as a young mother. Right now, I can say that I found my feet, there's been a lot of ups and downs. Uhm, you know I felt lost man. It was difficult for me to learn how to do everything and being a mom for the first time"* (Participant 11, Age 21, Single, Employed)

> *"To be honest, it's been really tough, but it's also been a great experience"* (Participant 12, Age 18, Single, Unemployed)

> *"I have my off days, I am still figuring this whole thing out"* (Participant 6, Age 23, Single, Unemployed)

5.3.1.1 Subtheme: A challenging but very rewarding experience

For many women pregnancy and motherhood are seen as welcome and positive experiences (Benza & Liamputtong, 2014). All the mothers agreed that becoming a mother for the first time is very challenging, but it is one of the best and most rewarding experiences in their lives. All the mothers had different perspectives with regard to the challenging aspects of becoming a mother for the first time. Some of the challenging aspects as per participant responses were:

> *"Not having that support, you know ... uhm, sometimes when she cries, I don't know what to do. I start to feel hopeless"* (Participant 12, Age 18, Single, Unemployed)

"It's difficult for me … uhm like now I need to take care of someone, a whole human being" (Participant 3, Age 22, Married, Unemployed)

While some mothers only alluded to the challenging aspects of being a mother, others highlighted that motherhood can be challenging but that it is one of the most rewarding experiences in their lives, as is evident in the participants' responses below:

"It is a blessing. It's amazing how a woman can birth a child … it's a wonderful experience. To me, it's an honour to be a mother" (Participant 2, Age 18, Single, Unemployed)

*"Well, mothers are uhm … natural and born nurturers. I carried my baby for nine months inside of me, so he forms part of me. I gave him life" (*Participant 5, Age 25, Single, Employed*)*

"It's both challenging and the biggest blessing. Every day when she does something new it reminds me … oh my word, I cannot believe I am a mother. It has truly been life-changing" (Participant 4, Age 30, Married, Employed)

Many women find it challenging to cope with the new demands that come with being a first-time mother (e.g., sleep disruption, weight loss/weight gain, financial pressures, work and managing a household) (Mercer, 2004; Walker & Murry 2022). According to a study that was conducted in Australia, it was reported that nearly 47,6% of women experienced stressful life events or social health problems in the six months following childbirth (Yelland, Sutherland, & Brown, 2010). Despite the challenges that first-time mothers are confronted with, motherhood is regarded as a rewarding experience and gives many mothers a sense of purpose.

5.3.1.2 Subtheme: Baby blues

Seven of the 12 first-time mothers experienced postpartum depression. Only two of the mothers who stated that they suffered from postpartum depression received treatment and was formally diagnosed by a registered psychologist. Many of the mothers stated that they felt extreme sadness during and after the birth of their baby. Contact with the infant is reduced when the mother suffers postpartum depression, which could severely influence the bond or the forming of attachment because the infant is exposed to withdrawal and inconsistent parenting (Walker et al., 2007). Tomlin, Cooper and Murray (2005) stated that 34,7% of South African women living in low-income communities are faced with postpartum depression. Research indicates that 70–80% of women suffer from some depressive symptoms within the first two weeks following delivery, for instance tearfulness, confusion, anxiety, and difficulty coping with daily activities (Sparks, 2013). This is supported by the responses of some of the participants:

> *"Yes, I experienced sadness during and after my pregnancy. In my situation I was very sad because of my living conditions and because I was young, I felt like an outcast when I was with my friends"* (Participant 11, Age 21, Single, Employed)

> *"I was sad a lot of the times, I cried for no reason and sometimes I felt like I couldn't attend to her as I should"* (Participant 10, Age 29, Single, Employed)

> *"I suffered from postpartum depression, and I think my baby suffered … uhm, sometimes when I am feeling down and want to be alone – he just wants to be around me, and I would start to cry and feel frustrated"* (Participant 7, Age 27, Single, Employed)

Depression during pregnancy is referred to as antenatal depression, while depression that occurs shortly after delivery, is referred to as postpartum depression (PPD) (Malala & Kassier, 2017). The global prevalence of antenatal depression and postpartum depression is between an estimated 12% and 18%, while one in eight women experience symptoms of depression within

two weeks after delivery (Pellowski, Bengtson, Barnett, DiClemente, Koen, Zar, & Stein, 2019). An estimated 12 to 20% of first-time mothers develop postpartum depression. South African studies have shown that many women experience depression during the antenatal and postnatal periods, with the prevalence of depression and anxiety during the perinatal period being three to four times higher in South Africa than in high-income communities (Baron, field, Kafaar, Honikman, 2015). The perinatal period is before and after the birth of a child. Perinatal depression affects 21–50% of women in South Africa and poses significant health risks to mothers and children (Pellowski, Bengtson, Barnett, DiClemente, Koen, Zar, & Stein, 2019).In a peri-urban settlement outside Cape Town, the prevalence of antenatal depression and PPD were 39% and 34,7%, respectively (Hartley, Tomlinson, & Greco, Scott, Stewart, Le Roux, Mbewu, Rotheram-Borus 2011). This clearly highlights that postpartum depression is a concern as it impacts the relationship formed between the mother and her baby.

In this study it was found that some mothers had sought treatment for postpartum depression whereas others did not receive any form of treatment. Postpartum depression has a significant impact on a women's health. When mothers suffering from postpartum depression do not receive treatment, it may have adverse long-term effects for both the mother and her infant. Research shows that infants of mothers who suffer from postpartum depression may experience delays in both motor and cognitive development (Gausia, Hamadani, Islam, Ali, Algin, Yunus, Fisher & Oosthuizen, 2007). A longitudinal study conducted in a South African urban township found that women with PPD at six months post-delivery, were more likely to have stunted children by two years of age. The reason is that mothers who suffer from postpartum depression have inappropriate feeding practices, an inability to recognise satiety cues, failure to provide nutritionally balanced meals and to engage in physical activities with the child (Madlala, Sibiya & Ngxongo, 2018).

5.3.2 THEME 2: FIRST-TIME MOTHERS' KNOWLEDGE, PERCEPTIONS, AND EXPERIENCES OF THE FIRST 1000 DAYS OF LIFE (FTD)

It is important for mothers to have sound knowledge of the first 1000 days of attachment. In this way, they would be able to ensure that their infant's needs are met. Whatever an infant experience during the first 1000 days of life greatly influences their holistic development. As such, this theme consists of four subthemes, namely "to know or not to know" which speaks to first-time mothers' knowledge (or lack thereof), perceptions and experiences of the first 1000 days and whether they regard the first 1000 days of their child's life as an important developmental period. The second subtheme "a first-time mother's needs" focuses on the mother's needs during the first 1000 days. The third subtheme focuses on the baby's needs during the first 1000 days of its life. The fourth subtheme's focus is on first-time mothers' lifestyle changes that they did or did not make during this period, and the possible impact it may have on their child's life.

5.3.2.1 Subtheme: To know or not to know.

All the first-time mothers who were interviewed were not familiar with the term "the first 1000 days" (FTD). Therefore, the first 1000 days of life was regarded as a relatively unfamiliar term for these first-time mothers. When asked whether they had heard about the concept before, these were their responses:

> *"I have never heard of the term before"* (Participant 11, Age 21, Single, Employed)

> *"No, I never heard about it"* (Participant 1, Age 18, Single, Unemployed)

> *"No, I haven't heard of this term yet"* (Participant 4, Age 30, Married, Employed)

These responses were captured throughout all of the interviews where mothers were unfamiliar with the concept of "the first 1000 days of a child's life". On the other hand, when participants

were asked whether the first two years of the child's life was important, many of the participants were aware that this time period is very important for the child's development. This is evident in these participants' responses below:

> *"I think, it is a very important period, especially for her development like language development and emotional development" (*(Participant 11, Age 21, Single, Employed)

> *"Yes, especially brain development and physical growth"* (Participant 4, Age 30, Married, Employed)

The first 1000 days is considered to be the most important period in a child's life because it lays the foundation for future health, behaviour and learning. Most of the mothers who were interviewed, understood that children undergo rapid and critical development during this time. As such the infant also experiences immense physical and emotional development during the first two years of their life (September, Rich, & Roman, 2015). According to Berg (2016), the white and grey matter within the brain increases, and the networks that connect different regions of the brain develop, leading to the brain doubling in size. It is very important for first-time mothers to be knowledgeable about this crucial period in their child's life because whatever happens in the first 1000 days shapes a child's future.

5.3.2.2 Subtheme: A first-time mother's needs

First-time mothers have a significant number of needs during pregnancy, ranging from emotional to financial needs. Many of the participants highlighted that they needed love, care and attention, while some mothers stated that emotional stability was the most important. This is supported by the statements of some of the mothers:

"Support, mental stability, eating healthy" (Participant 7, Coloured, Age 27, Single, Unemployed)

"Financial stability was my biggest need during my pregnancy" (Participant 5, Age 25, Single, Employed)

"Taking care of myself by taking my vitamins" (Participant 3, Age 22, Single, Unemployed)

"A lot of attention" (Participant 8, Age 18, Single, Unemployed)

Babies are entirely dependent on their mothers; therefore, it is important for the mother's needs to be met in order to ensure that the baby gets the best start in life. Pregnancy and childbirth are two crucial stages in a women's life; they therefore need to be healthy (e.g., by eating healthy and having a good support system), to ensure a healthy pregnancy outcome.

5.3.2.3 Subtheme: A baby's needs

It is important for primary caregivers to ensure that their child's needs are met. A baby has certain needs and is dependent on their primary caregivers to see to their needs and wants, which is usually indicated through gestures, sounds or movements. When the participants were asked what they think their baby's needs are, these were their responses:

"I think a baby needs nutrition … like uhm healthy food and a safe environment and uhm, parents who are active and present" (Participant 9, Age 30, Married, Employed)

"Uhm … food, water, love and care" (Participant 11, Age 22, Married, Unemployed)

"Attention, a lot of love … uhm a secure place, vitamins" (Participant 5, Age 25, Single, Employed)

All the first-time mothers who were interviewed regarded attention, love, nutrition and being fully active and present when with their baby as some of the most important needs of a baby. Abraham Maslow (1943), an American psychologist, created a theory known as the "hierarchy of needs". He believed that an individual's basic needs must be satisfised before higher needs can be satisfied. He presented his theory in a form of a pyramid. For basic healthy functioning there are five fundamental human needs that must be met by individuals, namely (1) physiological needs such as healthy and nutritious food, water, warm and sleep; (2) safety and security needs such as living in a safe and secure environment; (3) social needs which include belongingness, love, decent support networks and affiliations to other people; (4) esteem needs, which is achievement and recognition in school, self-esteem and respect; (5) self-actualisation, this is realising one's potential, growth and need for self-expression and fulfilment which includes knowledge and understanding (Maslow, 1943). As such, Maslow's hierarchy of needs helps one to understand what the needs are for both mothers and their infants. Therefore, it is important for the primary caregiver to ensure that their infants needs are met to ensure that the infant develops optimally.

5.3.2.4 Subtheme: Lifestyle changes

When a woman falls pregnant, she is required to make certain lifestyle changes to ensure a healthy pregnancy outcome. These changes include changing unhealthy eating habits to more healthy habits, to stop consuming alcohol as well as to stop smoking. The responses of the participants show their awareness around this issue:

> *"I used to be a smoker and a drinker, but I stopped when I found out I was pregnant"* (Participant 7, Age 27, Single, Employed)

> *"I ate very unhealthy and ended up being in hospital for three days"* (Participant 12, Age 18, Single, Employed)

"I didn't know I was pregnant so I smoked, but I stopped when I found out…" (Participant 3, Age 22, Married, Unemployed)

"My lifestyle during my pregnancy wasn't the best … uhm, I think that's why she was so sick, I just wasn't in a good environment during my pregnancy, like there was a lot of drinking, I was stressed out and angry, I think it impacted her" (Participant 11, Age 21, Single, Employed)

It is important for pregnant mothers to be in a safe environment because a mother's environmental experiences may affect interactions with her infant and affects the infant's physiological development directly. Mother and infant wellbeing are intimately connected. Research demonstrates that the fetus experiences the mother's life and is shaped by it (O'Sullivan & Monk, 2020). Furthermore, smoking and drinking during pregnancy is decidedly unhealthy. In South Africa 61,2% of women reported alcohol consumption, 56,3% reported smoking tobacco and 37,4% reported concomitant use of tobacco and alcohol during pregnancy. Infants born to mothers who smoke and consume alcohol during pregnancy have an increased risk of adverse birth outcomes (Hartel, Turawa, Oelofse, & De Smidt, 2022). Infants born to mothers who smoked or consumed alcohol during pregnancy are at an increased risk of developing adverse birth outcomes, such as low birth weight, preterm birth, placental abruption and fetal alcohol syndrome (FAS) (Patra, Bakker, & Irving, 2011). The majority of the mothers who were interviewed understood that they should not drink or smoke during this period as it may have an impact on the health of their baby, and that it was important for mothers to stay healthy by exercising, eating healthy, drinking multi-vitamins and water, as well as being in a safe environment. This is evident in one of the participants responses:

"I was very cautious because I knew everything I consume, she gets. I had to stop eating my favourite food, sushi, and some people even told me I can have a sip of wine, but I was

completely against it, I kept healthy and made sure I took my vitamins" (Participant 4, Age 30, Married, Employed).

During pregnancy, babies get all their nutrients from their mother. If the mother lacks key nutrients (e.g., omega 3 fatty acids, iron, folate, carotenoids, choline, iodine, vitamins, minerals and magnesium) it impacts the baby and puts the baby's future health and development at risk (Beluska Turkan et al, 2019). Therefore, pregnant women need to make various lifestyle changes, which is important as first-time mothers' health status may contribute greatly to their infants' health – both during the embryonic stage and after birth (Meo & Hassain, 2016).

It is important for mothers to become aware of and knowledgeable about the health implications of proper nutrition for preventing malnutrition and stunting during early childhood (Mohseni, Kazemi, Maleki, Beydokhti, 2017). Infants and young children achieve their prime development through genetics, psychosocial encouragement, proper nutrition, and an environment that is safe and clean, as provided by the caregiver or parent (Bentley,Crawford, Wilkins, Fernandez, Studnek, 2013).As such, the optimal development of infants depends on their nutritional care and nutrient intake, that is, the diet provided by the first-time mother. Therefore, pregnant mothers need to make intelligent and informed decisions during pregnancy to ensure that both the mother and baby are healthy.

5.3.3 THEME 3: METHODS OF FORMING ATTACHMENT

This theme focuses on the different methods first-time mothers used to form an attachment with their baby. The first subtheme is "play time" which focuses on the types of activities or games the mother and infant play to enhance attachment during the first 1000 days of the child's life. The second subtheme, namely" breast is best", highlights the first-time mothers' perceptions around and experiences of breastfeeding during the first 1000 days. The third

subtheme is singing as a way of forming an attachment – which the first-time mothers regarded as a fun activity and a way of bonding with their baby.

5.3.3.1 Subtheme: Play time.

Playing was regarded as one of the most popular methods that first-time mothers used to form an attachment with their baby. For the first time mothers play time was a time for them to engage with their child and this was generally a very positive experience for both the mother and the child. Through play children also begin to learn and understand the world around them. Through playing, mothers highlighted that they could do some form of cognitive stimulation with their child and make it fun. This is evident in their responses below:

> *"We play with his toys a lot ... he's always very happy when I sit down and play with him; we also do play dates so that he can be around other kids his age and just play and have fun"* (Participant 7, Age 27, Single, Employed)

> *"She enjoys playing a lot and that is our time, we do exciting activities. I would make up some easy educational games ... so it isn't us simply playing but also learning"* (Participant 10, Age 29, Single, Employed)

> *"We love to play with her dolls, blocks and puzzles; we try to make it educational too...* (Participant 11, Age 21, Single, Employed)

Play is a crucial part of early childhood development. Engaging in play is a fundamental mechanism that shapes the attachment relationship between caregiver and infant (Roggman & Cook, 2011). Therefore, it is important that "play time" is encouraged by primary caregivers as it contributes to the cognitive, physical, social and emotional wellbeing of young children. The majority of the first-time mothers highlighted that "play time" allowed them to engage and spend time with their child. When children are allowed opportunities to play, they are more

likely to use their creativity while continuing to develop their imagination, as well as their physical, cognitive and emotional strength (Ginsburg, 2007). Through play children begin to engage and interact with the world around them, while being able to create, explore, and conquer their fears (Milteer & Ginsburg, 2007). As children begin to master the world around them, they begin to develop new competencies that can lead to enhanced confidence and resiliencies that they will need to face future challenges (Milteer & Ginsburg, 2007). As such, every child deserves the opportunity to develop to their own unique potential, and the opportunity to play has an integral role in their reaching that potential (Ginsburg, 2007). It is, therefore, important that primary caregivers make time to play with their child as this may strengthen their bond.

As children grow and develop, their play evolves. Anderson-McNamee & Bailey (2010) highlighted that there are different types of play for specific age groups, namely unoccupied, solitary, social, motor-physical, constructive, and fantasy play. Each type of play has a specific focus. For example, unoccupied play where children from birth to about three months make random movements with no clear purpose, but this is the initial form of playing, whereas solitary play takes place from three to 18 months. This is when children spend time playing on their own. During solitary play, children are very busy with play, and they may not seem to notice other children sitting or playing nearby. They are exploring their world by watching, grabbing and rattling objects.

Social play involves children interacting with other children in play settings. This is when the child learns social rules such as give and take and cooperation. Children are able to share toys and ideas. They are beginning to learn to use moral reasoning to develop a sense of values. To be prepared to function in the adult world, children need to experience a variety of social situations. Motor-physical play is about children physically moving around, for example by running, jumping, and playing games such as hide and seek. Physical play offers a chance for

children to exercise and develop muscle strength. Physically playing with one's child also teaches social skills while enjoying good exercise.

Constructive play is also one of the types of "play" highlighted by Anderson-McNamee & Bailey. 2010). Constructive play is about children creating things, which include building with blocks, playing in sand, and drawing, which allows children to explore objects and discover patterns to find what works and what does not work. Children gain pride when accomplishing a task during constructive play. Fantasy play is also an important type of play, which helps children to learn to try new roles and situations, and experiment with language and emotions. Primary caregiver(s) need to make time to play with their child as it is not only beneficial to the child but the parent as well, as it allows the parent to see the world through the eyes of the child. These different forms of play are all ways in which attachment can be formed with one's baby.

It is imperative for children to engage in play as it shapes the attachment relationships between the mother and infant (Roggman, 2010). When positive, enjoyable and secure caregiving is provided by the primary caregiver, the infant is more likely to regulate and express healthy social-emotional development. If the infant is deprived of forming an attachment relationship through sensitively playful interactions with the primary caregiver, the infant may experience difficulty understanding the world and future interactions with others (Schore, 2005). When the primary caregiver enables the infant to engage in play, they give them the opportunity to make sense of the word around them, help them acquire new skills and learn how to engage with their counterparts (Babuc, 2015) which in turn may have a positive impact on the infant's holistic development. In a study conducted by Babuc (2015) the researcher found that primary caregivers regarded play as a way to support child development. In this study, 90% of the primary caregivers highlighted that they play with their child every day, and 14% regarded play time as a way of spending quality time with their child (Babuc, 2015). As such, engaging in

play is seen as imperative for shaping the first attachment relationship between the mother (or primary caregiver) and infant (Roggman, 2010).

5.3.3.2 Subtheme: Breast is best.

This subtheme focuses on breastfeeding as a method of forming an attachment. Many of the first-time mothers who were interviewed alluded to breastfeeding not only being a way of feeding their child, but it is a way of forming an attachment. Breastfeeding enables close promixity of the mother to the infant as well as regular and sensitive interactions (Linde, Lehnig, Nagl & Kersting, 2020). Mothers regarded breastfeeding as one of the best ways to form an attachment with their baby. It was seen as a way of spending time and "connecting" with their child. This was evident in the participants' responses below:

> *"I still breastfeed my baby, so when I get home from work, I know he's waiting for me already"* (Participant 5, Age 25, Single, Employed)

> *"Yes, it's our way of connecting and spending time together apart from me simply just feeding her"* (Participant 10, Age 29, Single, Employed)

> *"I see breastfeeding as forming an attachment with my baby; babies who are breastfed are apparently much healthier – they don't get sick easily – than babies on formula so breast is best"* (Participant 3, Age 22, Married, Unemployed)

Breast milk protects the child's immune system, and it develops a loving bond between the mother and her child. To enhance children's nutrition, mothers understood that breastfeeding was very important, and that breast milk was far superior to formula and other types of food Prado & Dewey, 2014; Thurow, 2016). Mothers described the importance of breast milk through identifying the contents of antibodies that boost the baby's immunity (Thurow, 2016). Consequently, the developmental trajectory for babies may predispose the baby to more

favourable outcomes (Dewey, Hingle, Goelz, & Linzer, 2020). While many of these participants did not know about the first 1000 days, many of these mothers understood that nutrition was very important for young children from infancy to preschool age (Bust & Pedro, 2020). Many of these participants also expressed the need for more information and shared that increasing their knowledge about child development and care would further equip them and help them to become mothers that would better respond to the needs of their children.

It was suggested by the NEOVITA Study Group (2016) that breastfeeding for the first month was an important intervention method to avoid mortality of the infant (NEOVITA, 2016). Literature also states that mother's milk is filled with nutrients that contribute towards the infant's physical growth (Martin, Ling & Blackburn 2016). The World Health Organization also highly recommends that an infant be exclusively breastfed for the first 6 months, and even to 2 years if possible (Kraemer, Green, Karakochuk, & Whitfield, 2018). It has been suggested by the World Health Organization that mothers should breastfeed their children for the first six months of life, because it creates an emotional tie between the mother and her infant (Hall et al., 2017; NEOVITA, 2016). Breastfeeding has many benefits such as optimal brain development. Many of the first-time mothers breastfed but some of the mothers also made use of formula. This is evident in their responses below:

> *"I only breastfed for two months, then for some reason I couldn't produce any milk. I tried all the remedies but then my doctor recommended that I put her on formula because she was losing a lot of weight in a short period of time"* (Participant 4, Age 20, Married, Employed)

> *"I didn't breastfeed, I could have but I didn't, she didn't latch to my breasts, it was always a struggle, I was so frustrated, so I put her on the bottle (formula)"* (Participant 6, Age 23, Single, Unemployed)

Insufficient milk supply is one of the main reasons why women use formula. In this study, some of the first-time mothers highlighted that they chose not to breastfeed, or that their milk dried up, which is known as lactation insufficiency or failure (Sultana, 2013). One of the participants stated that she chose not to breastfeed due to the baby not being able to latch. In addition, some of the first-time mothers could only breastfeed for the first three months because their milk dried up. During the in-depth interviews, mothers viewed infant formula as a solution to their breastfeeding problems, such as low breast milk supply. Low milk supply is a concern in 60–90% women, especially those living in low- and middle-income communities (Piccolo, Kinshella, Salimu, Vidler, Banda, Dube, Kawaza, Goldfarb, & Nyondo-Mipando, 2022). A study conducted by Piccolo et al. (2022) recommended three solutions to improve mothers' ability to produce milk, namely (1) increasing the frequency of breastfeeding, (2) improving maternal education on lactation and breastfeeding, as well as (3) training on interventions to improve mother's milk production and ensuring that mothers have access to adequate nutrition while breastfeeding.

5.3.3.3 Subtheme: Singing as a way of forming an attachment

The subtheme of singing highlights how some first-time mothers formed an attachment with their baby by singing to or with their baby. Mothers regarded singing as enjoyable interaction between mother (or primary caregiver) and the infant. The mothers stated that this was one of the common methods in which they used to "bond with" their baby. This is supported by the following quotes:

> *"We like to sing, and that's our way of spending time together, and being happy"* (Participant 1, Age 18, Single, Unemployed)

> *"I sing to her a lot, especially Twinkle Twinkle little star"* (Participant 11, Age 21, Single, Employed)

The first-time mothers who were interviewed regarded singing to or with their baby as an exciting way to form an attachment with their child. The participants highlighted that they sang lullabies to their baby; this calmed their babies to fall asleep easily, and fostered an emotional closeness (Brookes, 2016). Lullabies have been described as "intimate, aural communications between caregivers and infants" (Trehub, Unyk, Kamenetsky, Hill, Henderson, & Saraza, 1997, p. 16), as quoted in Brookes, 2016). Moreover, singing to babies stimulates early language development, and helps to strengthen the bond between a parent and their child. According to Persico Antolini, Vergani, Costantini, Nardi, & Bellotti (2017) mothers who sang lullabies to their infants demonstrated significantly greater attachment. Moreover, their infants showed significantly lower incidence of crying episodes, colic, and nightly awakening (Persico et al., 2017), whereas poor mother– infant relationships during the first 1000 days have been shown to negatively affect the child's cognitive development, physical health, socio-emotional development and interpersonal relationships (Bellieni, 2016; Johnson, 2013; Thurow, 2016).

The bond between the child and parent depends on the parent's ability to recognise and respond adequately to the child's emotional needs and demands. The attachment between child and parent should always be a prompt, positive and understanding response (Ainsworth & Bowlby, 1991). Caregiving is vital in human development as human beings are born defenceless and in need of protection (Spann, 2017). In order to survive, children require intensive care; and attachment comes about because of the child's relationship with the parent. Over time, an affectionate bond is formed, supported by new cognitive and emotional connections, and ongoing stimulation of love and trust between child and parent (Spann, 2017). As such, some of the other methods that the mothers used were reading, cuddling with their baby, talking to their baby, as well as bath time. These methods were seen as "spending quality time with their child" as well as "forming an attachment".

5.3.4 THEME 4: THE IMPORTANCE OF SUPPORT DURING THE FIRST 1000 DAYS OF LIFE (FTD) AND BEYOND

This theme focuses on first-time mothers having the necessary support during and after the first 1000 days of their child's life. This may include emotional support and/or financial support for both the mother and her child. This theme consists of two subthemes. The first subtheme is about it taking a village to raise a child (a good support system) and focuses on all the factors that one needs to take into consideration when rearing a baby for the first time and the people that are there to support first-time mothers in any way possible. The second subtheme is about the little or no information provided to first-time mothers by health care professionals and focuses on the lack of information or the very limited information that first-time mothers received from health care professionals on how to take care of their baby.

5.3.4.1 Subtheme: It takes a village to raise a child – a good support system.

It can be very challenging for first-time mothers to rear a child for the first time and therefore they need to have a good support system to help them when necessary. All the participants highlighted the importance of having a good support system. In addition, when asked whether the participants encouraged the involvement of another caregiver, all the participants responded positively. Other caregivers included grandparents, uncles, aunts, sisters and brothers as well as friends. The respondents reported that these people would offer any form of support they needed. This is supported by the following quotes:

> *"I had a good support system and am really grateful for that, my mother and partner were there for me and the baby throughout … if I needed a break to rest, his dad would take him a bit"* (Participant 3, Age 22, Married, Unemployed)

> *"My mom helped around the house and made sure we had everything we needed"* (Participant 9, Age 30, Married, Employed)

"My parents, they are always there whenever things get too much for me, then they will look after him for a bit" (Participant 5, Age 25, Single, Employed)

"When I am tired my mother would look after him, she provides for him basically, she buys clothes, food and so on" (Participant 8, Age 18, Single, Unemployed)

Eleven of the 12 mothers who were interviewed stated that they had a good support system and that their mother(s) specifically were there to help them with the baby. One of the participants highlighted that she was raising her baby by herself, and she did not have a good support system. When asked about the kinds of support that were important, social support and financial support were the most common responses received from the participants. Social support is "the presence of others, or the resources provided by them, prior to, during, and following a stressful event" (Ganster & Victor, 1988, p. 17), which in this case is becoming a mother for the first time. The mothers reported that they received social support from family and friends and felt that their mothers and other female relatives played a key role in showing support. First-time mothers often look to their own mothers and their relationship for support and education on how to approach the caring for their newborn, especially when exhaustion sets in (Darvill, Skirton, Farrand, 2010; Machado, Chur-Hansen & Due, 2020). A woman's memories of attachment with her own mother are often linked to her later satisfaction with social support, her own mother-infant attachment, and her developing feelings of competence in caregiving (Huth-Bocks, Levendosky, Bogat, & Von Eye, 2004). Similarly, women's partners play a crucial role in encouraging new mothers in their ability to provide for their baby's needs (Darvill, Skirton, Farrand, 2010). Women who have more prenatal social support tend to also have most postnatal support, which is also related to an outcome of a more positive mother-infant bond (Huth-Bocks et al., 2004).

When the first-time mothers were asked how and where they gained their knowledge pertaining to child rearing, there was a mixture of responses, but the most common responses were from their mothers, books, friends and family who were qualified health professionals as well as elderly women that were close to the particular family. This is evident in the responses below:

> *"My mother was very hands on, I would say I get my knowledge regarding child rearing from my mom… uhm, like I always consult her and trust her more than any other woman with my baby"* (Participant 3, Age 22, Married, Unemployed)

> *"Books, and from a lot of other mothers"* (Participant 4, Age 30, Married, Employed)

> *"My aunty guided me a lot, and other women in my community"* (Participant 12, Age 18, Single, Unemployed)

> *"I didn't receive information on how to care for my baby from nurses when I went for my antenatal visits, but I got information from my boyfriend's cousin who is a qualified nurse* (Participant 5, Age 25, Single, Employed)

Mothers play a significant role in a child life's and therefore it is important for them to have knowledge on how to rear to their child to ensure that their child would reach their full potential. Therefore, mothers should utilise various resources to broaden their knowledge on child rearing. There is an underlying assumption that the more the mother knows (i.e., the greater her maternal knowledge), the better she will be able to care for herself and her child. This notion has been widely supported by research. For example, a recent study of maternal knowledge of first-time mothers in Australia draws on work by Vincent Smeriglio and Peggy Parks (1983), who "recommended that parenting knowledge should at least consist of an awareness of typical developmental milestones, caregiver strategies and techniques to encourage early learning of skills, and an understanding of the relationships between caregiver

practices and future development outcomes" (Williams, Pearce, & Devine, 2014, p. 15). It was argued that when parents possess knowledge about child development milestones, not only will they attempt to construct suitable learning environments for their children to develop in, but they will also interact with their children in ways that are sensitive and responsive (Williams, Pearce, & Devine, 2014).

5.3.4.2 Subtheme: Information provided to first-time mothers by health care professionals.

This subtheme focuses on the information that was provided to first-time mothers by health care professionals. As all the mothers were first-time mothers, they needed information on how to care for their baby to ensure that their baby was healthy. Some first-time mothers highlighted that they did not receive information regarding how to take of their child from health care professionals; they had however received information on how to take care of themselves during pregnancy. This is evident in the quotes below:

> *"I didn't receive any information on how to care for my baby after pregnancy, but I did receive information on how to take care of myself during pregnancy but – that's it"* (Participant 1, Age 18, Single, Unemployed)

Another participant stated:

> *"During my pregnancy, my doctor was more focused on my baby's development and health and myself, but he didn't give me any advice on how to take care of him after birth"* (Participant 5, Age 25, Single, Employed)

Ideally, relevant and useful information pertaining to child rearing needs to be made available to all mothers-to-be. In this way they would be able to take proper care of their babies after birth. It is a fact that first-time mothers are often overwhelmed by the responsibilities that come along with being a mother for the first time; therefore, they should seek information during

pregnancy to prepare them for the maternal responsibilities. Some of the mothers highlighted that they had received information from health care professionals, but it was not thoroughly explained. This is evident in the quotes below:

> *"I received a book, but they never went through the book with me"* (Participant 7, Age 27, Single, Employed)

> *"Sometimes when I had questions because of the terminology used but, the nurses were often in a bad mood, and it made me feel uncomfortable to ask"* (Participant 10, Age 29, Single, Employed)

During pregnancy, mothers are exposed to a wide range of information when they attend their ANC visits. However, health care professionals need to take into account that the information they provide to mothers needs to be sound and clear, so that mothers will easily grasp it. Ariyo (1991) highlights that providing mothers with appropriate information helps to reduce the degree of uncertainty, distress, and anxiety they may be suffering from. Although pregnant women prefer to receive the required information from a health care professional in person, providing information by means of other resources is a good alternative, when professionals have too little time for one-on-one discussions with individual women (Nolan, 2009). A study that was conducted in Nambia found that 71,6% of pregnant women would find such services provided by health care professionals helpful (Amunguly, Nghitanwa, & Mbapaha, 2023). Moreover, the first-time mothers highlighted that they needed information regarding exercises during pregnancy, infant feeding, labour pains and its relief methods, as well as post-partum care. The first-time mothers recommended the following to help health care professionals to improve the services they provide to first-time mothers:

"They can explain how to take care of your baby after birth, how to form a bond. Not everyone has resources to go on the internet and look things up, you know"

(Participant 7, Coloured, Single, Employed)

"[They could offer] support groups for first-time mothers; sometimes it's tough and you are left in the dark if you don't have support" (Participant 5, Age 25, Single, Employed)

Support groups were one of the recommendations made by most of the first-time mothers as well as providing resources and thoroughly going through those resources with first-time mothers. In addition, participant 4 stated that check-ups for first-time mothers are also a recommendation, to provide them with coping mechanisms if they are having a difficult time adjusting to motherhood. In addition, some of the participants highlighted that *information sessions* would be helpful, where they would be able to ask questions. These information sessions should include health care professionals and older women from the various communities (to help mothers feel comfortable), as recommended by the participants.

5.4 CONCLUSION

The main findings of this study described first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life. The results suggest that this group of first-time mothers were not familiar with the term "the first 1000 days of life"; they did however acknowledge the importance of this period in their child's life. In addition, the findings show that these mothers had various methods in which they formed an attachment with their baby and had a clear understanding of what attachment is, and the importance thereof. The findings also highlight the needs of both the mother and her child, as well as the lifestyle changes that are important when pregnant. Furthermore, the findings illustrate that first-time mothers often suffer from postpartum depression also known as "baby blues" and

this in turn has an impact on how they form an attachment with their baby. Based on the results of the study, a good support system as well as useful, reliable, and appropriate information provided by health care professionals, plays an important role to ensure that primary caregivers are able to care for their baby, which in turn helps the baby to reach optimal development during the first 1000 days and beyond.

The conclusion and recommendations of the study will be presented in the next chapter.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The research question was dealt with in Chapter 5, where the research findings were presented and discussed. The conclusions are based on comparing the aim, objectives, methodology and discussion of the findings of the study. The conclusions are derived from the objectives leading to achieving the aim of the study, and the answers and responses to the study's research question.

The study had three objectives:

- To explore first-time mother's knowledge and perceptions of the first 1000 days of their child's life
- To explore first-time mothers' experiences of attachment in the first 1000 days of their child's life
- To explore first-time mothers' methods or techniques in which they form an attachment with their child

6.2 SUMMARY OF THE STUDY

The summary of the study provides a brief account of all the chapters, without going into much detail, as they have thoroughly been discussed in the preceding chapters.

6.2.1 Chapter 1: Introduction of the study

Chapter 1 provided a proposal and gave an outline of the study through a discussion of the background of the study, the research problem, the aim, the objectives guiding the study and the methodology utilised in the study.

6.2.2 Chapter 2: Theoretical framework

The second chapter presented a detailed discussion of the theoretical framework underpinning the study. John Bowlby's (1907) and Mary Ainsworth's (1973) attachment theory was selected as it appropriately served to guide the study.

6.2.3 Chapter 3: Literature review

Chapter 3 explored the available literature in relation to the topic. The researcher provided a detailed discussion of all the concepts relevant to the first 1000 days of life, attachment, nutrition, and access and quality of health care facilities. In addition, the previous studies presented in the literature provided insights into the first-time mother's knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life.

6.2.4 Chapter 4: Research methodology

In Chapter 4 the researcher explained that an explorative and descriptive qualitative approach were best suited in seeking to achieve the study's aim. The researcher recruited 12 first-time mothers from different areas in Cape Town. The participants were recruited by utilising the door-to-door method as well as snowball sampling. The researcher collected the data by means of individual interviews guided by a semi-structured interview schedule.

6.2.5 Chapter 5: Presentation and discussion of findings

In the fifth chapter, the demographic information of the participants was outlined and included their place of residence, age, marital status, employment status and the age of the child.

In addition, the discussion of the findings was presented, after the data had been collected and analysed. The audio-recorded collected data was verbatim transcribed and analysed. What follows is a summary of the following four main themes, as well as the concomitant subthemes (see Table 5.2):

6.2.5.1 Theme 1: Becoming a mother for the first time

The overall outcomes of this study have shown that being a mother for the first time is both very rewarding and challenging. The mothers who took part in this study had mixed feelings regarding motherhood, mainly due to being young and being responsible for a baby or not being in a good mental state. However, the mothers also regarded being a mother for the first time as both a blessing and a big honour. Furthermore, together with being a mother for the first time, seven of the 12 participants highlighted their struggle with "baby blues" and this ultimately affected their relationship with their baby. Two of these seven participants had received treatment for postpartum depression. The findings suggested that postpartum depression is one of the issues that some women deal with after pregnancy and therefore needs attention to ensure the wellbeing of both the mother and her baby.

6.2.5.2 Theme 2: First-time mothers' knowledge, perceptions, and experiences of the first 1000 days (FTD) of their child's life

The findings of this study have established that the mothers had limited knowledge regarding the first 1000 days. This theme was supported by the following four subthemes:

- **To know or not to know.** The study found that none of the first-time mothers were familiar with the concept of "the first 1000 days"; however, they knew the importance of this particular period in a child's life. The mothers were able to recognise the importance of development milestones within the first two years of their child's life, which included language and brain development as well as physical growth.
- **A first-time mother's needs.** study found that these first-time mothers had various needs during and after pregnancy, which included a good support system, attention, love and care. They were also able to understand the importance of their needs as well as their baby's needs being met to ensure the wellbeing of both.

- **The baby's needs.** The findings of the study confirmed that babies need a safe environment, nutrition, love, attention and affection. These findings indicate that the first-time mothers had some knowledge regarding what their baby's needs were during the first 1000 days of their life.
- **Lifestyle changes.** It is important that a first-time mother makes certain lifestyle changes. Some of the mothers in this study had consumed alcohol and smoked cigarettes during the early stages of their pregnancy when they were unaware of their pregnancy status. In addition, being in a stressful home environment (e.g. increased exposure to alcohol, smoking, unemployment, and violence) were some of the issues highlighted. Stressful living circumstances may be a contributing factor to ineffective parenting and may have a negative effect on early childhood development. If a child is in a stable household where there is a good form of social support, it is more conductive to effective parenting, whereas if a child is in an environment that is highly stressful it is not conductive to good and effective parenting. The majority of the first-time mothers in this study knew the importance of taking care of themselves during pregnancy by taking their vitamins and exercising, as well as eating healthily.

6.2.5.3 Theme 3: Methods of forming attachment

The study found that the first-time mothers had different ways in which they formed an attachment with their baby. Attachment was associated with having a *close emotional connection* and relationship with one's baby. Three subthemes emerged from this this broad theme:

- **Play time.** The mothers highlighted that they regarded play time as their way of bonding with their child, spending quality time and doing fun activities together. In

addition, they would incorporate fun educational games to stimulate their child's cognitive development.

- **Breast is best.** Breastfeeding was regarded as being very important and as a way of providing nutrition to the baby as well as a way of forming an attachment with one's baby. In addition, breastfeeding was seen as far superior to formula feeding. However, some of the first-time mothers had difficulty breastfeeding their baby and had to utilise formula due to low milk supply or being able to breastfeed for only a short period of time.
- **Singing as a way of forming an attachment.** The mothers highlighted that they formed an attachment with their baby by singing to and with them. Singing was seen as a way of spending time with their baby, as well as getting the baby to fall asleep. Other ways that these first-time mothers used to form an attachment with their baby was through reading, talking, cuddling with their baby as well as bath time.

6.2.5.4 Theme 4: The importance of support during the first 1000 days and beyond

Having a good support system during and after pregnancy is crucial. The importance of having a good support system during the first 1000 days was examined through the following two subthemes:

- **It takes a village to raise a child: a good support system.** The study found that having a good support system was very important to the first-time mothers. One of the participants highlighted that she did not have a good support system but got some form of guidance and support from women in her community. Most of the participants received support from their parents, friends, and family members, who provided social, emotional, and financial support. The mothers gained their knowledge about

child rearing from their own mothers and friends and family who were qualified health care professionals, as well as elderly women in their various communities.

- **Information provided to first-time mothers by health care professionals.** First-time mothers need information to prepare them for their maternal responsibilities. The findings of this study suggested that these first-time mothers received appropriate and useful information from health care professionals; however, the information provided was not thoroughly explained to them and they had difficulty understanding some of the terminology used in the various resources they had received.

6.2.6 Chapter 6: Summary, recommendations, and conclusion

This, the final chapter, provides an overall summary of the previous five chapters of the study – see above sections – as well as the recommendations, suggestions for future research, and the conclusion.

6.3 RECOMMENDATIONS

Based on the findings of the study, one could make the following recommendations:

- The programmes and/or information sessions offered by the health sector should be made simpler and more understandable for pregnant first-time mothers when visiting clinics or hospitals during their antenatal check-ups, as mothers often have difficulty understanding the terminology used by health care professionals. In this way, mothers may become more knowledgeable and more aware of how to take care of their baby and themselves during the first 1000 days and beyond.
- The government and/or policymakers should create parenting training programmes for first-time mothers to ensure that mothers know the importance of attachment in the first two years of a child's life and beyond, so that first-time mothers can also make

informed decisions to ensure that their behaviour and actions do not pose a risk to their babies.

- As some of the first-time mothers suffered from postpartum depression, it is recommended that mental health screening becomes a crucial part of the information, programmes and/or support services that are provided to mothers to ensure that they get the necessary assistance pertaining to their mental health, as this can have a serious impact on the quality of the attachment formed between the mother and her child.
- Some of the first-time mothers consumed a small amount of alcohol and smoked cigarettes during the early stages of their pregnancy. This holds a danger to the health of babies. It is therefore recommended that educational materials and interventions are designed to create a broader awareness of the dangers of smoking and consuming alcohol during pregnancy. In addition, health care professionals should provide mothers with comprehensive information about the risk of smoking and consuming alcohol during pregnancy. This information should also be explained to mothers to ensure that they understand the information provided to them.

6.4 SUGGESTIONS FOR FUTURE RESEARCH

The limitations of this research and the way it has been structured point to the following suggestions for future research:

- Future research could aim to include a broader range of other race groups and other geographical areas, as it may yield more insightful results in relation to the limitations of the current study.
- Further in-depth research can be done on the same topic, with a larger sample but in a rural community context to establish whether those mothers have the same or different

perceptions, knowledge, and experiences regarding attachment in the first 1000 days of their child's life.

6.5 CONCLUSION

The research question was explored through a qualitative approach, thereby attaining the research goal and objectives of the study. The results of this study provided insight into first-time mothers' knowledge, perceptions, and experiences of attachment as well as the techniques used in forming an attachment during the first 1000 days of their child's life. The findings established that the majority of the mothers had not been familiar with the term "the first 1000 days of life" but they regarded this period as an important developmental period. In addition, the participants knew the importance of attachment and had various methods in which they formed an attachment with their baby. Furthermore, the last chapter of the study provided the reader with a summary and the conclusions of the preceding chapters, from the introduction, the theoretical framework, the literature review, the methodology, to the presentation of the research findings. Recommendations were made to the health sector and policymakers, based on the results of the study. In addition, a couple of suggestions for future research were put forward.

Through this research study the research problem was addressed, and the research question was answered. Hopefully the findings of this study would contribute to better services being offered to first-time mothers in future.

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APPENDICES

APPENDIX A: INFORMATION SHEET

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Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 2459, Fax: 27 21-959 368

Email : 3694766@myuwc.ac.za / rich.edna2@gmail.com / isonn@uwc.ac.za

INFORMATION SHEET

Project title: Exploring first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life.

What is this study about?

This is a research project being conducted by Crystal Stoffels at the University of the Western Cape. I am inviting you to participate in this research project because you have expertise and experience in the field. The purpose of this research project is to explore first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life.

What will you be asked to do if you agree to participate?

You will be asked to complete the informed consent confidentiality form and participate in a one-on-one interview with the researcher. The interviews will be 40 to 60 minutes long and will be recorded on an audiotape. You will be asked to respond to the interview questions in the way you understand them. Interviews will be conducted at a location that is comfortable and convenient for you. The research question that you will contribute to answering is – what

are first-time mothers' knowledge, perceptions, and experiences of attachment during the first 1000 days of their child's life?

Will my participation in this study be kept confidential?

The researcher undertakes to protect your identity, the nature of your contribution, and to ensure your anonymity; neither will be included for any purpose in this research project. Only the researcher will be able to link your identity to a transcript. Each transcription will have a unique file name known only to the researcher and will be password protected with a password known only to the researcher. To ensure your confidentiality, the audio-recordings were saved on the researcher's cloud storage software, with a specific code to differentiate the different transcriptions of the participants. Therefore, only the researcher will be able to link the identity of the participants to a transcription. Thereafter, it will be deleted immediately from the audiotape. The transcriptions will also be saved on the researcher's cloud storage software. The cloud storage software will be accessible by password, which will be known only to the researcher. Transcriptions will be in a locked cabinet personal to the researcher. If a report or article about this research project is written, your identity will be protected to the highest degree.

What are the risks of this research?

Participation in this research may pose some risks for you. These risks may include psychological, social, emotional, and legal risks. There might also be the risks that are currently unforeseeable as all human interactions and talking about self or others carry some risks. The researcher will take great care to minimise any psychological, social, and emotional risks, and will act promptly to assist you if you experience any discomfort during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator to *create awareness and building on scientific research on the significance of a child's first 1000 days.* This research may help the investigator learn more about the context and lived experiences, knowledge, and perceptions of first-time mother's methods of forming an attachment with their child in the first 1000 days.

Do I have to be in this research, and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all, or only partake in the one-on-one interviews. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or stop participating at any time, you will not be penalised or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

All possible precautions will be taken to protect you from experiencing any harm from the research process. If, however you feel that you are being negatively affected by this research, suitable assistance will be sought for you at the University of the Western Cape.

What if I have questions?

This research is being conducted by Crystal Stoffels in the Centre of Interdisciplinary Studies for Children, Families and Communities Department at the University of the Western Cape. If you have any questions about the research study itself, please contact the student via email at **3694766@myuwc.ac.za**. Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you may have experienced related to the study, please contact:

Head of Department: Prof. S. Savahl

Centre of Interdisciplinary Studies for Children, Families and Communities

ssavahl@uwc.ac.za

021 9593674

Dean of the Faculty of Community and Health Sciences:

Prof Anthea Rhoda

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This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

APPENDIX B: CONSENT FORM

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CONSENT FORM

Title of Research Project: Exploring first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life

The study has been described to me in a language that I understand. My questions about the study have been answered. I understand what my participation involves, and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

I agree that the interview can be audiotaped: Yes No

Participant's name……..

Participant's signature…….

Date……

APPENDIX C: INTERVIEW SCHEDULE

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INTERVIEW SCHEDULE

DEMOGRAPHIC INFORMATION

1	Age	
2	Marital status	
3	Employment status	
4	Place of residence	
6	Age of the child	
7	Gender of the child	

1. It can be really challenging transitioning to motherhood; how has that been going for you?
    a. In your opinion, what are the most challenging aspects of being a mother?
    b. What would you say is the most rewarding about being a mother for the first time?
2. Have you heard about the first 1000 days of life?
3. What do you understand by your child's first 1000 days of development?
    a. What kind/form of development takes place during this period, in your opinion? E.g., brain development?
    b. Do you think this time period is of more importance than another?
4. What do you think your needs are during pregnancy?
5. What do you think your baby's needs are during the first 1000 days of life?
6. How do you think your lifestyle during pregnancy affects your growing baby?
    a. What is your understanding of forming an attachment with your baby?

b. Why do you think a healthy relationship between mother and infant is important?
c. Are there any specific methods used to form an attachment with your baby? Please mention some of the methods you use.
d. What is your child's reaction when you are doing this?

7. Have you experienced any form of sadness after the birth of your baby?
    a. If yes, have you received any treatment for feelings of sadness related to the birth of your child?
    b. Did this affect your relationship with your baby in any way?
8. Do you breastfeed your baby?
9. If yes, do you think it is important to breastfeed? If yes, why?
    a. For how long did (are) you breastfeed(ing)?
    b. If no, what other alternative methods do you use?
10. Do you encourage the involvement of another caregiver?
    a. Is there someone who is able to assist you with caring for your child? If yes, who are they?
    b. What kind of support does the caregiver provide for your child?
11. Do you ever consult other resources on how to care for your child (have you read books, spoken to older women etc)?
    a. How have you gained your knowledge pertaining to child rearing?
12. At any stage during your antenatal visits to the clinic, did you receive information on how to care for your baby?
13. What do you think health care professionals can do to assist first-time mothers during the first 1000 days of a child's life?

Thank you for your time.

APPENDIX D: ETHICS CLEARANCE LETTER

UNIVERSITY of the WESTERN CAPE

60 YEARS of hope, action & knowledge

19 January 2021

Ms CBJ Stoffels
CISCFS
Faculty of Community and Health Sciences

Ethics Reference Number: HS20/10/24

Project Title: Exploring first-time mothers' knowledge, perceptions and experiences of attachment in the first 1000 days of their child's life.

Approval Period: 12 January 2021 – 12 January 2024

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report by 30 November each year for the duration of the project.

The permission to conduct the study must be submitted to HSSREC for record keeping purposes.

The Committee must be informed of any serious adverse events and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Director: Research Development
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NHREC Registration Number: HSSREC-130416-049

APPENDIX E: EDITOR'S CERTIFIED DECLARATION

TRANSLATING • WRITING • EDITING • PROOFREADING

Dr Anna-Mart Bonthuys (D Litt et Phil – SA)

Independent Contractor

Email: annamart.bonthuys@gmail.com

Always in excellence mode

DECLARATION: EDITING

TO WHOM IT MAY CONCERN

I, the undersigned Dr Anna-Mart Bonthuys, hereby declare that I am a fully qualified and experienced language practitioner, and that I have thoroughly edited and proofread the master's thesis of Ms Crystal BJ Stoffels (UWC)(3694766@myuwc.ac.za), titled:

Exploring first-time mothers' knowledge, perceptions, and experiences of attachment in the first 1000 days of their child's life

However, the process does not allow me to double-check the corrections and changes a student might make to the text, following my editing and Comments.

.....
Dr Anna-Mart Bonthuys

3-10-23
.....
Date

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3 October 2023