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The experience of maternal perinatal depression and influence on child developmental outcome: Maternal perspectives

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Abstract/Summary

The study aims at understanding the experience of maternal perinatal depression and the influence on motherhood attainment, maternal/child attachment, and child developmental outcome with the purpose of understanding the importance and need for maternal/child support system to alleviate adverse complication of the problem. The research questions are exact reflection of the research aim. The author used Mercer's theory of becoming a mother as the basis of established theoretical framework for the study. The study was conducted using qualitative research methodology. Data collection was done by interviewing four mothers who suffered depression at the perinatal period of their adolescent/adult children. Qualitative content analysis was used as analysis method.

The result indicates the importance of good maternal perinatal mental health cannot be overemphasized for the wellbeing and safety of both mother and child. The association of maternal perinatal depression to child developmental outcome was small in magnitude. Results also identify the role of support systems including nursing role as part of the support system. Nurses must act as continuous checkers and health promoters. The combination of this can lead to mental health intervention and empowerment for both mother and child whether it influences the child developmental outcome or not, thereby promoting a healthy society.

Language: English Key words: maternal perinatal depression, child development, maternal/child attachment, motherhood attainment, maternal depression, support.

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Abbreviation

MPD Maternal perinatal depression

1 Introduction

The global prevalence of perinatal mental disorder includes that, about 10% of prenatal women and 13% of postnatal women experience a mental problem which is primarily depression. This is about one to two in every 10 women. Studies show that 20% of postpartum women in developing countries experience clinical depression (WHO, 2020). This is one in every 5 women. This figure is, however, higher than prevalence in high income countries. This proportion is even higher due to so many cultural factors (especially where women are mostly regarded as second-class citizens). In some cases, maternal mental disorder might be so severe that they may even commit or attempt suicide (some do so alongside their child) (WHO, 2020).

Almost one in five pregnant Finnish women feels depressed. This means 20% of Finnish prenatal women. This is significantly high amount. The rate of human growth and development of organs is fastest in the womb in comparison to all other stages of life and thus, the risk of almost all public diseases is implanted in the child while in the prenatal stage. Therefore, this is said to be one of the most important stage of human development. lack of proper development of child during the prenatal stage leads to a vicious circle spanning over generations. (THL, 2018).

Furthermore, In the postnatal stage, mothers with mental disorder suffers a lot and may fail to adequately care for themselves. This increases the risk of ill health for the mother. Also, the child may be affected since children are extremely sensitive to their environment. The quality of care a child can receive from a mentally ill mother is poor. It is no news that even mild long term maternal depressive symptoms influence an infant's emotional life and leads to hyperactivity, anxiety or even aggression (THL, 2019).

Globally, maternal perinatal mental health problems are regarded as a major public health crisis. It causes suffering and disability all over the world for children and as well, has influences on children development as they grow. This calls for stronger focal point on mental health conditions in the delivery of integrated care for maternal and child health. Some academic and public health in some countries already initiated maternal mental

health programmes and impacts have been demonstrated both on mothers and on the growth and development of children (WHO, 2020). However, this is still on the pivotal stage and there need to be more public awareness, nursing diagnosis and roles nurses can play in the intervention for this vicious predicament on the public health.

2 Background

It is crucial to start off with understanding the meaning of depression, perinatal mental health, and child development since it is almost impossible to address the thesis topic without have some background understanding. According to MHTF (maternal health task force), perinatal mental health refers to mothers' mental health during the pregnancy period (prenatal) and the postnatal period (MTHF, 2020). Research on perinatal mental health mainly focus on non-psychotic common perinatal mental disorders (CPMDs) which are primarily anxiety and depression and these two goes together hand in hand. in the background discussion, the topic will be divided into segments and discussed individually for a better understand of the topic as a whole. These segments include depression, maternal prenatal depression, maternal postnatal depression and child development and psychology.

2.1 Depression

In the fourth century B.C., Hippocrates (the father of medicine) first gave a clinical description of depression where he wrote that depression was as a result of excess black bile and described it as *Melan chole.* This is the genesis of the word melancholy which is still used till date to refer to severe depression (Williams, Hagerty & Ketefian, 2005). In modern terms, clinical and research evidence has showed that, depression is a complex genetic disorder which may come about as coaction of genetic vulnerability, psychological and social factors. Adverse life events such as bereavement, unemployment, other psychological trauma triggers the beginning of depression (often outstart with mild symptoms) through the activation of stress mechanism. At its worst, consequential result

of depression is suicide which is the second leading cause of death in the world among the youths (15 to 29 years old) (WHO, 2020).

Risk factors of depression for individual may include family history of mood disorder, female gender, family conflict, abuse, personal history of depressive symptoms etc. Aside from jeopardising the safety of an individual (suicidal thoughts) and those around them, there are evidence of interwoven relationships between depression and physical health. For instance, cardiovascular diseases may lead to depression and vice versa. The inability to recognize the early onset of the illness and failure to properly treat it leads to a recurrent and eventual damaging consequence, highlight the necessity for clinicians including nurses to research on strategies to care for people suffering from depression and prevention of the illness (Williams, Hagerty, & Ketefian, 2005)

2.1.1 Types and symptoms of depression

Depression may be classified as mild or severe depending on symptoms and symptoms' severity. A major distinction is also made between people with depression having history of manic episodes or not. If left untreated, both types can be chronic, and the patient can suffer relapses (WHO, 2020).

Recurrent depressive disorder: this is characterised by repeated depressive episodes. During episodes, a person may experience lack of interest in things they normally enjoy, depressive mood and reduced energy that diminish their activity level which may last for minimum of two weeks. Symptoms may also include anxiety, disturbed sleep and appetite, low self-esteem and self-worth, feelings of guilt and other unexplainable diagnosis. Symptoms can be mild, moderate, or severe. People with mild symptoms often have difficulty to continue normal daily activities but will not stop to function. For severe symptoms, the person is likely to cease from an active daily living (WHO, 2020).

Bipolar affective disorder: this is characterised by manic and depressive episodes with periods of normal moods in between. Manic episodes include elevated or irritable mood, decreased need for sleep, pressure of speech, over activity, and an inflated self-esteem (WHO, 2020).

2.1.2 Treatment and prevention

In the treatment of depression, antidepressant medication and selective serotonin reuptake inhibitors (SSRIs) may be used with caution of their adverse effect. They should however not be used in children and not first in line treatment for adolescents as well. Additionally, clinicians may offer psychological therapy treatments such as interpersonal psychotherapy (IRT), cognitive behavioural therapy (CBT) etc. (WHO, 2020).

Prevention programmes have been evident to reduce depression. Community approach which effectively prevent depression include reach out school-based programmes to enhance positive thinking pattern of children and adolescents. Also, early intervention for family with depressive symptoms may reduce depression and improve parenting and children outcome. Additionally, light exercise for the elderly has also prove effective in prevention of depressive symptoms (WHO, 2020).

Psychiatry has focused on symptom management and illness treatment of depression. However, little attention has been paid to issue arising from the interaction between the patient suffering depression and its environment (including people around them) as depression is an infectious illness to its environment (Williams, Hagerty, & Ketefian, 2005). Hence, nursing has a unique position to generate evidence-based knowledge about people's responses to depression and its associated phenomena.

2.2 Maternal prenatal depresssion

Prenatal depression is the most common complication during pregnancy as it can affect both the mother's health and child development and increases the mother's risk for subsequent depression (Richardson et al, 2012). Symptoms can be mild or severe, affecting active daily living. There are a lot of research on postpartum depression however, study accounting for prenatal depression is significantly small in comparison. Evidence indicates that complication associated with prenatal depression includes diminishes maternal mental health condition and risk for recurrence of depression in the nearest future, altered foetal organ growth and development (Records, 2011). The exact aetiology of prenatal depression is unknown but there a number of risk factors which are associated

with prenatal depression. Risk factors includes socioeconomical factors, history of depression, poor social support, unplanned pregnancy, traumatic childhood experience, immigration background, thyroid disfunction and hormonal changes. However, the presence of these risk factors does not guarantee occurrence of depression since, while some women may tick all the boxes for the risk factors, there may be protective factors in their lives which can act as shield against prenatal depressive symptoms (Records, 2011).

2.3 Postpartum depression (PPD)

This is a condition whereby mothers have depressive symptoms after childbirth. It is important to note that mothers are often times very emotional after childbirth and this postpartum emotionality is otherwise known as baby blues. It is characterised by irritability, mood swings, crying and problems with sleeps and appetite. Baby feels strange to first time mother especially and the myths of infancy and postpartum period being the most wonderful period for mother and child amount into feelings of guilt for the mother. This should not be misconstrued with PPD as postpartum emotionality is perfectly normal due to hormonal rush caused by birth experience and the sudden life changes due to the new-born. This goes away with time and with support of loved ones (Norhavati et al, 2015)

However, PPD is more severe and requires treatment from professionals. Onset of PPD is often within 1year after childbirth. It usually starts off with unexplained feelings of guilt which hinders the mother from seeking medical help or even help from anyone, as she is expected to be happiest at this point with her life and her baby (Mieli, 2020). PPD is however, a mental disorder and has nothing to do with maternal love for her infant. Symptoms and its intensity are individual, and therefore situational treatment of the condition must be given for each individual (CDC, 2020).

2.3.1 Symptoms

This may include severe mood swing, difficulty bonding with infant, withdrawing from loved ones, insomnia or too much sleep, excess crying, overwhelming fatigue, feeling of hopelessness, worthlessness, shame, guilt, and inadequacy, sever anxiety and panic attacks, loss of appetite or eating disorder, thought of harming self or infant, recurrent

suicidal thoughts. It is important to seek medical attention if these symptoms do not fade away in 1-2 weeks and are getting worse as this is highly dangerous for both mother and child (THL, 2020).

2.3.2 Risk factors

Risk factors for PPD includes; Stressful life events , marriage dissatisfaction, socioeconomic factors, obstetric factors such as having preterm labour and delivery, pregnancy and birth complications, having a hospitalised baby, being a mom to multiple at a time (twins, triplets etc.), psychological factors such as being a teen mom, unintended pregnancy, depressed spouse and lastly previous history of depression (prenatal depression increases the risk of postnatal depression by 6 times fold) and/or family history of depression (CDC, 2020). It should be noted that PPD can also occur in mothers with healthy pregnancy and healthy infant. Studies have been done to categorize the risk factors of PPD into strong-moderate, moderate, and mild effect sizes.

- Prenatal depression and previous history of depression or mental disorder have the strongest effect size in PPD.
- lack of social supports and stressful life events are revealed to have a strong to moderate effect size in PPD.
- psychological factors and marriage dissatisfaction have moderate effect size in PPD.
- socioeconomic factors and obstetric factors have small effect size in PPD (Norhavati, 2015)

2.4 Child Development

The complexity of child development is enormous as all children go through growth and development from infant to adulthood in varying extents. From conception to birth and onward, a child grows and develops in a uniquely coordinated yet dynamically transforming as the body part and mind develops to bring forth a uniquely bio-mental

individual. Dimensions of child development typically include physical growth and central nervous system (CNS) maturation, attachment, temperament, psychological and emotional development, cognitive/intellectual development, social development, communication, and language, psychosexual (view of self in term of gender) and moral development. The extent of variations in child development makes each child undeniable different and gives room for boundless adaptive flexibility to parenting (Ninivaggi, 2012).

From infancy to early adolescence, a child lives more with immediate moment awareness and are very conscious of the immediate environment. This means there is need for stability and consistency. Several research studies have cumulatively shown that behavioural regularity and stability in infancy and childhood leads to a lower anxiety level in later life. This also positively affect parenting confidence and also child self-regulation (Black & Surkan, 2015).

3 Aim and research questions.

The study aims at understanding the experience of maternal perinatal depression and the influence on motherhood attainment, maternal/child attachment, and child developmental outcome with the purpose of understanding the importance and need for maternal/child support system to alleviate adverse complication of the problem. This challenge needs to be addressed and intervened for by nurses (as they are the closest to patient) with the used of evidence-based practice.

Subsequent to the research aim as mentioned, the research question to be investigated will be,

- What are mothers' experiences of perinatal mental depression (PMD)?
- What are mothers' experiences of how PMD affected their mother/child attachment, motherhood attainment, and child developmental outcome from foetal stage to early adolescent?

- What are mothers' ideas of support system that may be provided for mother and child to alleviate adverse complication of the problem?

4 Theoretical framework

In academic writing, there is need of presenting the framework for theorizing. It is a systematic knowledge-based guide which explains the theory behind why the research problem under current study exist. Thus, theoretical framework helps to conceptualise the research in a broader context. In the nursing practice and research, theoretical framework can also be used as an assistive tool in generating and providing support methodologically using evidence-based knowledge for critical analysis required for planning and providing care for patients (Masters, 2015). Hence, it is important to have a theory that explains and analyse what can be done for improving patient care while maintaining the nursing professional boundaries.

John Bowlby attachment theory in psychology gives a broad understanding on the influence of maternal attachment deprivation on the child's development, and it can be applied to the different stages of child development (Brandon, 2009). Maternal deprivation in the context of Bowlby's theory means any factor depriving the child of a motherly affection for instance maternal depression or loss. Hence, Although, a theory in psychology, Bowlby's theory been widely accepted in maternity and paediatric nursing to bring awareness of the phenomenon to maternal-child nursing care.

In nursing practice, Beck's theory of postpartum depression is one commonly used nursing theory for maternal perinatal depression for nursing intervention and education. However, it is lacking as a nursing theory for this current thesis work because Beck's theory only dealt with maternal depression and discussed nothing about the influence on the child development. This led to opting for Mercer's theory of maternal role attainment as it gave a complete picture and basis for this research work.

Mercer's maternal role attainment theory gives an appropriate health care intervention for non-traditional mothers (especially those with difficulty such as stress, depression, and anxiety) to help them build and develop a strong maternal identity. Its suitability includes that it can be used through pregnancy and postnatal care and more so for foster mothers who find themselves unexpectedly mothering and find the mothering role problematic (leading to depressive symptoms) (Meighan, 2014). Mercer's model helps mothers to develop attachment to the child from the onset of pregnancy which in turn develops the maternal-child relationship as the child grows. Hence, in order to keep this work in the nursing professional boundaries, Mercer's theory of maternal role attainment will be employed as theoretical framework. Although, Bowlby's maternal attachment deprivation theory is also presented.

4.1 Theory of attachment and maternal deprivation

Bowlby's theory of attachment presents that a child come into the world with a natural instinct to form attachments with others as a mode of survival. Hence, a child will at first, form only one attachment to one figure (monotropy, often the mother) who will serve as a secure base for the child to explore the world. More so, the type of attachment relationship acts as a precursor for all future social relationships. Bowlby assumes that failure to initiate maternal attachment (before 12 months for most children) or disruption of the maternal attachment (during the critical 2-3years) can have severe and long-term irreversible consequence, including long-term social, cognitive, and emotional difficulties. This, he called the maternal deprivation hypothesis (Akhtar, 2012).

Although, the attachment theory was initially introduced for the postpartum period, however it is believed that attachment starts during pregnancy, that is, the prenatal stage. therefore, attachment begins when the mother finds out about her pregnancy. Acknowledgement of the pregnancy by the mother is the real start point for foetus interaction with its environment. Bowlby acknowledged that there could also be possibility of other attachment figures for a child at the beginning for example the father and other family members, but he argues that there should be a primary bond which is

qualitatively more important (usually the mothering figure) than any other subsequent relationships (Akhtar, 2012).

Bowlby also added that short-term consequence of maternal deprivation could leads to distress for the child which was fond to be of three progressive stages (protest, despair, and detachment) while long-term consequences of maternal deprivation on the child could include delinquency, depression, reduced intelligence, increased aggression, and also affectionless psychopathy (showing no guilt for antisocial behaviour) etc. Although, many argued that a serious limitation of Bowlby's attachment theory is that it failed to recognise influences of several other important factors such as ethnicity, social class, gender, and culture on personality development which are as important as early attachment. However, after much research on his expertise, Bowlby believed that his proposed mother deprivation hypothesis may guide further research investigation in various populations while incorporating other important factors as well (Akhtar, 2012).

4.2 Mercer's theory of maternal role attainment

Ramona T. Mercer, born in 1929, began her nursing career in 1950 when she obtained her diploma from St. Margaret's Nursing school in Alabama. She worked as a nurse and instructor in paediatrics, obstetrics and contagious diseases and continued with her education and career in maternal-child nursing until she became a professor emeritus in family-health nursing and retired. However, she continues revising and clarifying her work as she believes theory building is a continual process. During the span of Mercer's career, her work and interest were focused on areas such as teenage mothers, postpartum illness, needs for breastfeeding mother, mothers bearing children with defect, maternal role, self-esteem, self-concept of mothers, maternal-child nursing and her *becoming a mother theory* was inspired by Reva Rubin who served as her inspiration and professor (Meighan, 2014).

Its suitability as the theoretical framework for this thesis work includes that it can be used in nursing practice, education, and research for providing quality care and intervention for mothers suffering from depression and their children. Since a mother suffering from perinatal mental disorder finds it difficult to attain her maternal role, Hence the theory

serves as an assistive tool to help the mother in attaining the maternal role to the child while promoting her own mental health, and child developmental outcome.

4.2.1 Description of Mercer's theory

Mercer believe nurses are responsible for health promotion of mother and the child including the significant other. Hence, she proposed a middle range theory which establishes a framework for nurses to provide quality nursing care in mother-child bonding and can be applied to new and older mothers, ill mothers, high antepartum stress, perinatal stress, infants with congenital defects, cesarean deliveries, adolescent, and fathers. In the description of Mercer's theory of maternal role attainment, she referred to some concept as presented in table 1 (Meighan, 2014).

Table 1. Concepts and its definition as outlined in Mercer's maternal role attainment theory.

Concepts	Definitions
Maternal identity	defined as having an internalized view of the oneself as a mother
Perception of birth experience	defined as a woman's perception of her performance during labor and birth.
Self-esteem	an individual's perception of how others view self and self-acceptance of the perception
Self-concept	or self-regards means the overall perception of oneself including self-acceptance, self-satisfaction, self-esteem and the discrepancy or coherence between self and ideal self
Flexibility	means that mothering roles are not rigidly fixed and hence, who fulfils the role is not importance. Also, mercer noted that flexibility of childrearing attitudes increases with increased development of the mothering role
Child-rearing attitudes	are maternal beliefs and attitudes about childrearing
Health status	defined as the mother/father's perception of their prior health, current health, health worry concern, and rejection of the sick role.
Depression	defined as having a couple of depressive symptoms which are affective component of the depressed mood.
Anxiety	a trait which perceives stressful situations as dangerous or threatening and situation specific.

Role strain-Role conflict	defined as the difficult and conflict felt by the woman in fulfilling obligations of the maternal role.
Gratification-satisfaction	Defined as the enjoyment, satisfaction, pleasure or reward a woman experience in interacting with her infant and in fulfilling the usual mothering tasks
Attachment	Viewed as a process where an enduring emotional and affectional commitment to an individual is formed.
Infant temperament	Refers to whether an infant sends an easy or hard to read cues, leading to feelings of frustrations and incompetence by mother.
Infant health status	Refers to an illness resulting to mother -infant separation
Infant characteristics	Refers to infant appearance, temperament, and health status
Infant's cues	Refers to infant behavioral pattern that requires a response from the mother
Family	Defined as a dynamic system that include subsystems (father, mother, fetus/infant)
Family functioning	Refers to as the individual view of the relationship between the family and its subsystems and broader social units
Father or intimate partner	contributes to the process of maternal role attainment in a way that cannot be duplicated by any other. Its conscious presence help diffuse tension and facilitate the maternal role attainment process
Stress	Made up of environmental variables including positively and negatively perceived life events
Social support	Referred to as the amount of help received, the person providing it, and satisfaction received from it. Four areas of social support include emotional support, informational support, physical support, and appraisal support
Mother-father relationship	This is a perception of the relationship that includes actual and intended values, agreements, and goals between the two. Maternal attachment to infant develops within the emotional realm of the father-mother relationship

Mercer outlined the obvious relationship in her theory which include the mother, intimate partner, and the child. The implied relationship to include family and friends, community, and society at large. As shown in figure 1., Mercer describes the microsystem as an immediate environment in which the maternal role attainment occurs. It includes factors such as mother-father relationship, family functioning, social support, socioeconomic factors, and stress. The microsystem is the most influential factor in maternal role attainment. The mesosystem includes interactions and influences of people in the microsystem in the development of maternal role and child development. Factors in the

mesosystem includes work settings of the parents, churches/mosques, day care and school. The macrosystem involves the general prototype in the family's culture which can influence maternal role and child development. This includes social, political, cultural, and religious influences, healthcare environment and policies, and national laws regarding women and children (Meighan, 2014).

As shown in fig. 1, Mercer explained how behavioral pattern of both mother and infant can influence maternal role identity and the child outcome. Child's outcome includes cognitive and mental development, behavioral/attachment, health, and social competence.

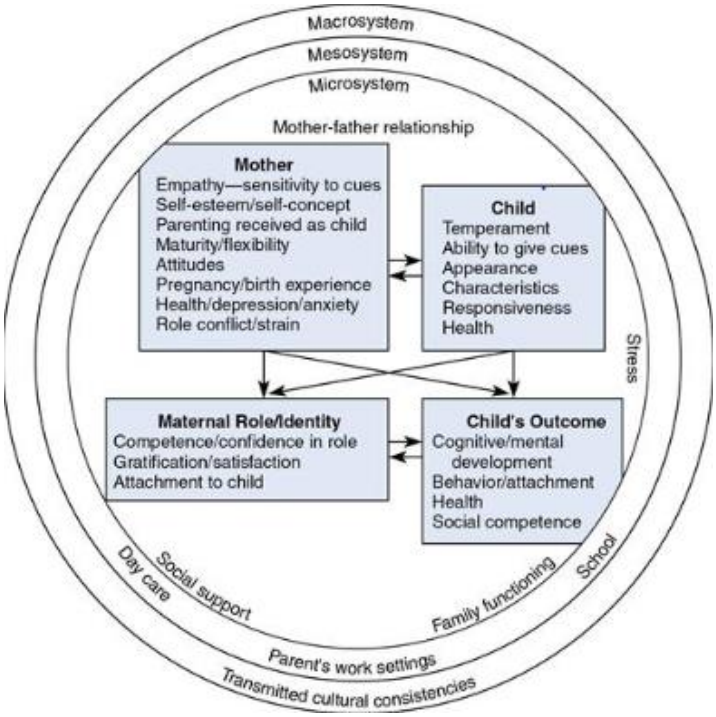

Figure 1. Proposed model of maternal role attainment theory.

Mercers proposed that there are four major stages of role acquisition (as shown in figure 2) which includes,

a. commitment attachment and preparation, previously called anticipatory. This stage begins during pregnancy with all the physical, social, and psychological adjustment during pregnancy. The mother relates to the fetus, learns the expectations, and fantasizes about the maternal role.

b. formal stage: This begins with the birth of the child and includes acquittance with the child, learning and taking up maternal role. Roles behavioral pattern are guided by formal, consensual expectation of others in the mother's social system.

c. Informal stage: This stage begin as the mother identifies new ways of doing things not conveyed by the mother's social system. The mother fits her new role into her existing lifestyle based on her future goal and previous experiences.

d. Personal stage: Achievement of the maternal identity occurs here as the mother internalizes her role. Here, the mother experience harmony, confidence, and competence in the way she performs her role.

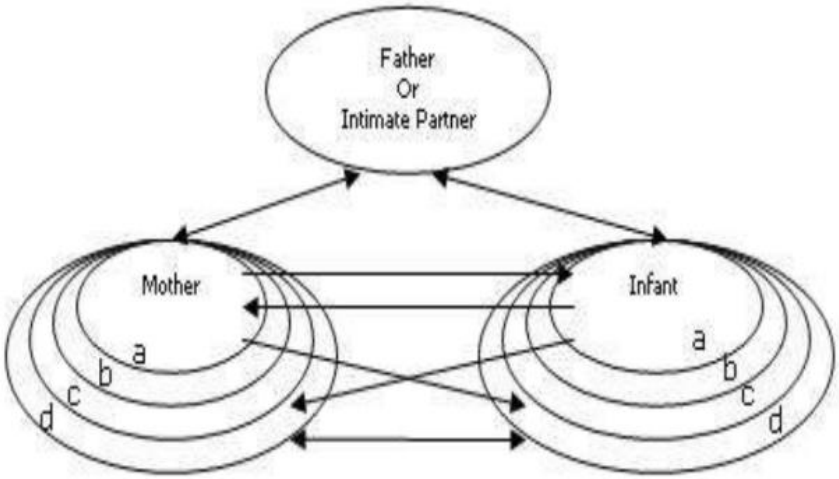

Figure 2. Four stages of maternal role acquisition.

She stated that stages of role attainment can overlap and are altered as the infant grow and develops. Also, the stages can be achieved at different time frames for different families. It could take several months even to attain the maternal role for some women, and it is often influenced by social support, stress, family functioning and mother-father (or intimate partner) relationship (Meighan, 2014).

4.2.2 Assumptions in Mercer's theory includes:

- The mother as a relatively stable core self (perception to life events)

- The mother's developmental level and personality trait influence her behavioral response.
- The infant is considered an active partner for the mother in the maternal role-taking process, affecting and being affected by the process.
- The mother's role partner (her infant) will reflect the mother's mothering role competence through growth and development.
- The father (mother intimate partner) contributes to the process of maternal role attainment in a way that cannot be duplicated by any other supportive person.
- Maternal identity develops simultaneously with maternal attachment.

Mercer's well-defined concepts, assumptions and goals are presented logically and coherently, making the interrelationships among concepts easily understandable and very practical (Meighan, 2014).

5 Research methodology

According to centre for research quality (2015), when conducting a research, a family of methods are employed to provide trustworthy information on a research problem. The research methodology is used to refer to the design or approach on how to do a research study. In other word, it is an approach used to pattern gathering and analysing information to obtain relevant results answering research questions of a study. The research design maybe quantitative, qualitative, or mixed method design. Specifically, for this research study, the qualitative methodology is employed.

5.1 Qualitative research methodology

The general purpose of a qualitative research is to explain, understand, predict, investigate relationships, describe current conditions or to examine possible impacts or influences and

designated outcomes. Qualitative research generally uses a small sample to explore and describe experiences through the use of rich, thick description of detailed data in an attempt to understand and interpret human perspectives (Seale, 2007). Qualitative research is not interested to generalise to the population as whole. For example, when studying bullying, a qualitative research will give real experience of the victim and the experience of the bully by examining and analysing them exclusively on a neutral ground. When conducting a qualitative research, the researcher first identifies the research problem and purpose which has to be of importance in the professional field. Design characteristics of qualitative research is flexible and evolving. For instance, when informants are asked open end questions, it makes it flexible, thereby giving room for emergence of new ideas and concepts (Seale, 2007).

According to centre for research quality (2015), Qualitative methodological traditions include case study, meta-synthesis hermeneutics, grounded theory, ethnography, phenomenology, and narrative approach. it is important to know that case study, which is by nature a qualitative methodology approach, can combine any number of qualitative and quantitative traditions and techniques in order to meet specific needs of the research situation. It is important to identify that phenomenological approach focuses on the description of the common meaning for several individuals of their lived experiences of a phenomenon or concept. That is, what all participants have in common there by reducing individual stance.

Consequent to the aforementioned attributes or qualitative research methodology, it becomes evident that, qualitative design is ideal for this research study as it will help to give answer the research aims and questions.

5.2 Data collection

Qualitative data are typically obtained from sources such as interviews, focus groups, observations, and existing documents (May, 2002). For the purpose of this research, a convenient and purposive sampling is made with at least five participants (an heterogenous group of individuals) whom as mothers, have suffered from depression

during their child's perinatal period, to share a narrative experience from a mother's perspective as to how their depression as mothers has influenced their attainment of motherhood and, attachment to their child and influenced their child's development. it is important to understand that this qualitative research is not to generalised but to better understand the phenomena from the perspective of the interviewed participants. Interview as a method used in qualitative data collection is an excellent method to obtain a data of understanding, feelings, experience, attitude, and thoughts from the informants. It is flexible and easy to motivate the informants to provide answers to questions. Although it may be time consuming due to work time, transcription, interpretation (depending on the language of interview) etc, however its merits are way much more (Denzin & Lincoln, 2005). These establish the suitability of interview method in the data collection for this study.

Before the interview session, the interviewer was prepared by reading and having some preliminary knowledge about the topic. During the interview session, the interviewer ensured not to influence the informant's answers by avoiding leading questions from the previous knowledge. The interview came in form of a dialogue, the interviewer initiates the conversation and gave limits. Questions were asked in an increasing order of sensitivity so the informant can be relaxed and flow well with the dialogue, however when questions get too sensitive for the informant or informant is reluctant to answer, question is not asked. It is not allowed to force answer out of informant or cause harm. This is in accordance with ethical guidelines of research (TENK, 2019).

When creating interview questions, the interviewer took cognisance of the aim and purpose of the research. Questions came in descriptive manner (how?), structural (what is?), general or specific (tell about?) and in contrasting questions to compare phenomenal difference. Additionally, questions were formulated from the theoretical framework which has been the nursing theoretical basis of the study (Mercer's theory of becoming a mother). Also, the research interview is done as an in-depth interview in order to reach the depth of the topic and so informants are asked open end questions so that their answer will create hint for the next questions and also give them room to speak out their mind as much as possible. A semi structure questionnaire is made as a guide. This study has

employed the different type of interview medium which include face to face video interview, internet, and phone interview. This means the interviewer has been in contact with the informants. Interview theme questions is included as an appendix.

5.3 Conduction of study

The study is conducted by first joining different maternal depression groups on Facebook, afterwards a letter of consent/invitation for participation was formulated and later corrected and signed by the supervising teacher. The letter contains; aim of the study, interest in women who suffered depression during or after pregnancy as informants, method of data collection and details of ethical principles of research (letter can be found in the appendix). This letter is dropped as a post on each of the Facebook group. Additionally, two of the participants are known and contacted through WhatsApp.

Interested participants were interviewed one-on-one through Facebook messenger which was later copied and pasted on word document for data analysis stage. Semi structured interview was done with pre themes and subthemes questions (interview questions can be found in the appendix 2). Themes are mainly derived from the concept within the theoretical framework. After the data analysis, chats on messengers with the participants are permanently deleted for privacy purpose.

5.4 Limitation during the data collection

During the conduction of study, the biggest challenge was getting participants for interviews. Although letter of consent/invitation for participation was sent to groups containing mothers suffering from pre-partum and/or postpartum depression however, not so many people are willing to come forth as informants. Perhaps, the topic is a bit sensitive for them and/or the fear of a totally strange person as interviewer. This really decreased the number of participants. Eventually, some participants came forth on conditions of no interview over phone calls, but they would rather do it over chat sessions.

Additionally, there was also the time difference issue as most of the informants were from different part of the world with respect to the interviewer. In this case sometimes, interviewer had to drop questions in the morning and find response to it the next day or late at night. There were times where interview had to take place even at late midnight. These limited the amount of data collected. Overall, only 5 participants were able to be interviewed; 3 of which are one-one interview on Teams video chat and the other 2 were chat sessions on Facebook messenger.

5.5 Qualitative Content Analysis

According to centre for research quality (2015), In qualitative research methodology, data analysis process is designed to meet the study need making it quite flexible. However, it follows an established protocol and rigorous methodological approaches to measure frequency and pattern of manifestation of words, phrases, and sentences. For this thesis work, an inductive content analysis is employed. During the analysis of this study, preparation and organization of data is done first by transcribing interview notes including recordings, chats into word documents and ensuring all documents to be used for the content analysis are available. Secondly, coding of data elements was done, after which categories and subcategories are created according to the content they represent by grouping thereby forming the theme. Format colours are used to differentiate each stage of data analysis. Red is used to represent codes, green is used for sub-categories, blue for main categories and black for theme. Data analysis presentation is given in tabular form in table 2.

Table 2. Data Analysis presentation

Theme	Main Categories	Sub-Categories	Codes
Maternal perinatal depression experience	MPD Effect on mother	physical and mental exhaustion, physical health, darkened state-of-mind, lack of selfcare, stigmatization, paranoia, suicidal thoughts endangering mother/child safety.	Lack of energy, sleeplessness, restlessness, anxiety, guilt, emotional, irritability, unforgettably tough and sad memory, poor appetite, weight loss and high blood pressure during pregnancy, Suicidal thoughts, Avoidance of social circle because of their lack of understanding, irrational fear.
	Underlying causes of MPD	Lack of support, domestic violence, unintended/teen pregnancy, spouse depression, marriage dissatisfaction, high expectations, immigrant background, previous history to depression	Physical abuse, lack of financial and emotional support, emotional imbalance due to maternal immigration background, too much pressure, demands, and expectations on a new mother leading to disappointments and stressful situations, maternal previous history of depression.
	MPD Effect on maternal role attainment	maternal role competence attainment, maternal satisfaction, guilt, maternal self-esteem.	Inability to enjoy motherhood for a very long time until children are grown, lack of self-confidence as a mother, self-criticism, embarrassment, and dissatisfaction, feelings of incompetency and unfit.
	MPD Effect on maternal/child attachment	Early mother-child interaction, good attachment, vulnerable attachment, attachment to a primary caregiver	Difficult and extended birth experience, loneliness, Feelings of not in love with own child, inability to bond immediately with infant, pain from extended painful birth experience, good attachment type, vulnerable attachment when separated from child even for moment, attachment to a primary caregiver other than the mother,
	MPD Effect on child developmental outcome	foetus's health/development, social competence, physical health, cognitive ability, mental endurance	No influence on foetal health/ development nor child birthweight despite mother's bad appetite, children were reported socially responsive and especially smart, separational illness from primary carer, living condition of child has consequence on child outcome. environment, personality, and

			temperament as a determinant of mental endurance, violent children in late childhood resulting from picking after mother's behaviour
	Support system for MPD	Need for support, physical and emotional support, informative support, support role of nurses, prognosis after receiving support.	Need for emotional, physical support from spouse, absence of spouse support at time of birth, importance and need of support and appraisals from social circle of a mother, informative support from someone in her social circle, importance and need for support even when mothers do not intend to open up about it, nurses' role as continuous checkers, health educators and health promoters as part of the support system, support helps maternal role internalization and subsequently MPD.

6 Presentation of results

The results of the research study are presented in this section after a content analysis has been done on the transcribed interview documents. Categories and subcategories were made bearing in mind, the research questions. The theme created is MPD experience. The 6 main categories identified are, MPD effect on mother, Underlying Causes of MPD, MPD effect on maternal role attainment, MPD effect on maternal/child attachment, MPD effect on child developmental outcome and Support system, which gave answers to the research questions. Results are presented here in both graphical and narrative forms. The subcategories are typed-written in bold format (in-text) under each category, and quotations are written in italics to narrate codes under each category. The illustration in figure 3 below represent graphical presentation of the results.

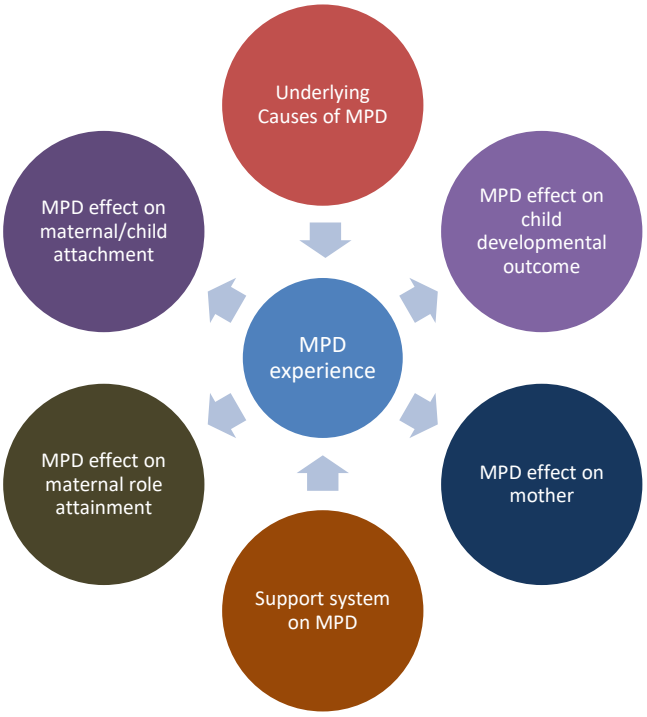

Figure 3. Graphical illustration of theme and categories identified from the study.

All four of the successfully interviewed participant experienced the maternal perinatal depression (**MPD**) as first-time mothers. Also, among the four participants, three had antepartum depression which continued as postpartum depression before and after their second child. While one had postpartum depression after their first child which continued as antepartum depression during her second pregnancy and then postpartum depression again when the child was born.

Additionally, among the five informants who agreed to be interviewed, only four were able to participate and give extensive answers to the interview questions. One informant who agree to participate in the interview dropped out in between for unknown reasons. All four of the successfully interviewed participant experienced the maternal perinatal depression (**MPD**) as first-time mothers. Also, among the four participants, three had antepartum depression which continued as postpartum depression before and after their second child. While one had postpartum depression after their first child which continued as antepartum depression during her second pregnancy and then postpartum depression again when the child was born.

6.1 MDP effect on mothers

All four of the participants gave a description of their experiences of MPD and how it affected them as mother during their children's perinatal period which led to this main category. Sub-categories which are generated includes: **physical and mental exhaustion, physical health, darkened state-of-mind, lack of selfcare, stigmatization, paranoia, suicidal thoughts endangering mother/child safety.**

When asked to talk about the experience, participants discussed about how they had lack of energy, sleeplessness, restlessness, guilt, emotional, and irritability which resulted **physical and mental exhaustion.**

"*…Having depression and being pregnant for the second time was feeling exhausted and I felt I did not have enough energy, I became extremely irritable, have anger issues. Also, I felt much more emotional like I start crying while listening to a song on the radio, watching tv/movie/commercials and I even get teary eyed when I talk to people!…"*

"*When I had my first child, I was on a high for three days, going on without sleep and really excited about giving birth. After a week or so after delivery, I began to feel exhausted, irritable, angry…"*

"*… I really tried to be as sensitive to my children as much as possible, but my depression was not helping matters at all. For instance, sometimes I might just end up snapping out at my children while they are trying to request for somethings and so on…"*

"*…it has really been affecting how I am as a mother and dropping into a deeper depression, I have no patience, I lose my temper and I hate how I treated and yelled at my kids".*

Participants also discussed about how they had MPD affected their **physical health** during the period. They had poor appetite, high blood pressure, and antepartum weight loss instead of the normal weight gain during pregnancy.

"*…I ate less cos I didn't have appetite…"*

"…The changes were in myself like losing weight or, at some point I had also high blood pressure…"

Participating mothers also explained how the experience was an unforgettably tough and sad memory for them, they also had it as a period of dark moments which brought about a **darkened state-of-mind** and affected their self-perception as a woman and as a mother.

"When my first child was born, and I started to suffer from depression, it was a very challenging time for many years because I had my second child very close too and the time when my children were small feels as a quite dark time, even if there were many happy moments too…"

"…So as an experience, it was very, very tough, I would say, I think I would not forget about it. Never! because in a way, I feel it as a kind of sad experience or sad memory, in that sense that I, I wanted to be happy about my, my child, who was born, and then still, I felt a lot of sadness and, and I felt depression…"

"…I was depressed during my first pregnancy and through my second pregnancy and afterwards. It was really a dark moment for me, and I was just wallowing in the darkness..".

Participants explained how their MPD led them into **lack of self-care** and self-isolation. During the MPD period, mothers avoided their social circle because mothers believed they lack understanding of what was going on. Mothers also did not have the drive for self-care, and these could be dangerous to the mother's overall wellbeing.

"…I really tried to avoid people a lot especially my friends because they really did not understand me…"

"…So, I was intent on doing everything by myself, I isolated at home, I found excuses not to leave the house, I was not caring for myself nor exercising, I was barely sleeping…"

One participant also mentioned how she became **paranoia,** having irrational thoughts that her spouse may hurt the new-born and therefore would not let him in on the child.

"…I had it out for my husband, I did not let him in with the baby, I was scared he was going to hurt the baby. If he was holding him, I was always looking over his shoulder telling him what

to do. I was looking over his shoulder while he was giving him a bath, and I was so paranoid that he would intentionally hurt our child…"

When narrating the experiences, two of four participants mentioned having **suicidal thoughts.** This could be endangering to both mother and child safety.

"…I never wanted to leave my children, but I had no choice but to divorce their father otherwise either he killed me, or I would have committed suicide because there was no other way out…"

"…at some point my depression got so bad that I was having suicidal thoughts…"

There were also talk about **stigmatization** attached to maternal depression and also perhaps social service interference with mother and child life, making mothers suffering from MPD uncomfortable about telling anyone about their feelings which worsened the case.

"…but I was so embarrassed and so ashamed, and I was scared that people were going to judge me…"

"…people are happy that you have a child and then they congratulate you and then they kind of expect you are happy, then it is even more difficult to talk about your feelings if you don't feel happy or so, so comfortable, or whatever in that situation. So, it makes it even more difficult… if it would be discussed more openly, like, this could happen, and this doesn't make me as a bad person or a bad mother…"

"…I think also I was afraid in that sense that if I would tell this healthcare professional that I don't feel so good or how bad I actually feel that that it would make me look like even like first mother, or, or even that I'm not maybe able to take care of my children and then social service are involved…."

6.2 Underlying causes

All the four of the participants explained in their narrations, the combinations of reasons which actually lead to their depression leading to this main category. Sub-categories

derived from this section include **unintended/teen pregnancy, domestic violence, spouse depression, marriage dissatisfaction, criticism, history of depression/mental disorder, immigrant background, and high expectations**.

One of the participating mothers noted in the narration of her experience that she suffered **unintended/teen pregnancy as** one of the factors which led to her MPD.

"I had an unexpected pregnancy as a teenager and where I come from when you are pregnant, abortion is illegal, and you must settle down with the child's…".

Participant noted in the narration of her experience that she suffered **domestic violence** also during her experiences which was part of the cause of her MPD.

"…*After giving birth, taking care of a child was not as easy as I thought, my husband will physically abuse me at any slight mistake…*"

The same participating mother noted in the narration of her experience that she also suffered **spouse depression,** which is a factor leading to her MPD.

"…He was depressed himself because he did not have a good job…"

It was observed from all the participants' narrations that just as **marriage dissatisfaction** could be an underlying cause for MPD, likewise MPD has also led to marital dissatisfaction as all the mothers claimed that their partner could not understand what they went through and so their respective partners did nothing to support emotionally. This, among other factors, led to the divorce of three among all four participants as mother- father relationship went on so wrong.

"I had it out for my husband. Granted he was not the best partner during this time, but I could not stand him… and 2-3 years after I gave birth to my child, my husband and I, well it was my decision, I separated from him and kicked him out of the house… then I realised my marital problems are not primarily my husband. It does play a factor yes indeed, but my depression had a lot of influence on how terrible our marriage was going and the poor communication skills and my fears, irrational fears around my husband and the baby…"

Another participant mentioned**,**

"…our relationship started getting sour from the time I got pregnant with my first child, then my depression started until I had my second child and after then I could not take it any longer and left!…"

The third participant in this subcategory gave a detailed explanation**,**

"…Yeah, so my spouse was maybe also kind of confused at what's happening. Like, I thought that you are happy that we are getting a child and then now you are so sad, and you don't feel so good about it. So that made me think okay, there is like something wrong with our relationship. And then that puts even more pressure to you, as a mother and as a woman and as a partner and then you don't have so much as I said kind of energy to put efforts to your relationship with the partner…"

"…I felt quite alone with my thoughts and feelings and what I had at that time. Eventually, years later, we divorced with my spouse, or the father of my children because I kind of lost that trust to our relationship because I felt that if he is not able to support me, or stand by me, I thought, how can I rely to this person somehow?"

Two of the participants had **previous history of depression/mental disorder** which was mentioned in their narration.

"Depression has been a part of my life even before I got married or pregnant as I am that kind of a very emotional…"

"…I have been depressed during my whole lifetime every now and then… I even got diagnosed with a mood disorder probably bipolar 2 during my postpartum depression, but the doctor did not specify… because it has really been affecting how I am as a mother and dropping into a deeper depression, I have no patience, I lose my temper and I hate how I treated and yelled at my kids".

One participant had an **immigrant background,** which has always been a cause of mild depression for the participant prior to perinatal period.

"... and also, since I migrated to a new country and lived away from my family, I have always had mild depression at one point or the other..."

Three of four among the participants also explained about how **high expectations** on a new mom by herself**,** her spouse**,** or relatives around her**,** led to disappointments and stressful situation as mentioned in the following statement**,**

"...I think I as a nature I am quite demanding towards myself. So of course, that goes hand in hand also in experience as a new mother. So, I think I should have been gentler towards myself and not demanding so much..."

"...And you also kind of feel pressure to be happy because you hear these stories that oh, this is how it wonderfully went. And it is so nice. You have a small baby and a new family. So, you kind of have for yourself expectations, that it is a very beautiful time and nice time. And then if it is not, then you're kind of disappointed in yourself as well..."

"...It's not only about like, what you expect yourself, but also what you feel about the people around you expect because everybody is, of course expecting you to be happy..."

6.3 MPD Effects on maternal role attainment

This main category describes the effects of MPD on maternal role attainment. All the participants gave a description of their experiences with respect to maternal role attainment. The codes and pattern from the experience narration were grouped into subcategories and further grouped into the main category. Subcategories generated here include the influence of MPD on **maternal role competence attainment, maternal satisfaction, guilt,** and maternal **self-esteem.**

When asked to talk about the experience**,** participants explained how motherhood and parenting was difficult during their MPD and how **maternal role competence attainment** was difficult at the start.

"...Motherhood has been hard. I rarely feel normal or good because it is either my mental state or normal motherhood stresses are getting in the way. I have been able to parent, but I am

the first to tell you I was not good at it from the start, and I prayed I don't mess up to the point that they are messed up…"

"…not only did I have it out for my husband I also had feelings of incompetency. I felt like I needed to have the baby with me all the time and if anyone helped me, that men that I was an unfit mother…"

Participants also discussed about how MPD has influenced their **maternal satisfaction** which includes pleasure or reward a woman experience in interacting with her infant/child and in fulfilling the usual mothering tasks.

"…I love my kids no doubt and I am very happy to have them. But at the time when they were kids and I was to care for them all by myself with an unsupportive man coupled with depressive feelings, I never really enjoyed motherhood at this time…"

"…I have been looking forward to this my entire life and I felt so embarrassed and so unappreciative… I said in my marriage counselling, I feel like I should never have become a mother…"

"…I started to enjoy motherhood when I got my freedom little by little when my children were in the late childhood at about 8 and 10years. This was the time I started to enjoy being a mother…"

"…although my children met their developmental milestones on time and this was satisfying and enjoyable to watch, but doesn't outweigh my depressive feelings…"

"…I think the older the children were growing, especially as nice young women, the more I could enjoy my role as a mother because as the first months and years felt in a way quite challenging to enjoy really, of course there were like joyful moments when you see the certain development points of children starting to talk or to do or learn new things…"

One participant also talked about the **guilt** feeling she had due to feeling sadness and incompetency resulting from her MPD.

"...And also, I had kind of feelings of guilt, about having the depression and depressive thought, because you know, you want to do your best to give everything to your child and feel happy, but you can't..."

Three participants discussed about how MPD has influenced their **maternal self-esteem** which involves their individual perception of how others view them as a mother and self-acceptance of the perception resulting in mother's confidence level. For instance, in the following statement,

"...I had no confidence in myself as a mother. I love my children and I often cry thinking about how they deserve better than what they got..."

"...so yeah my self-esteem/self-concept of myself as a mother really sucks and because of that, and just in its own, my self-esteem/self-concept as a person sucks too..."

"...my self-esteem was really shitty as a mother and as a person, like I really wished my children had the best motherly love at that time because they deserved better than what they got from me..."

6.4 The Effect on Maternal-child attachment

This main category describes the effects of MPD on maternal/child attachment. Participants gave a description of their experiences with respect to maternal/child attachment. The codes and pattern from the experience narration were grouped into subcategories and further grouped into the main category. Subcategories generated here include the influence of MPD on **early mother/child interaction, good attachment, vulnerable attachment, child attachment to another primary caregiver**.

All the participants gave a description of their experiences of maternal-child attainment. The experience includes how the birth experience affected their MPD which further reflected on their **early mother/child interaction**. Mother explained how she could not feel an immediate connection or bonding with the first child it was a difficult and extended birth experience. Another mother also explained how loneliness throughout the birthing period of a first child, not having the spouse, relatives or friend brought about a lot of fears

and pains, coupled with the MPD took away the happiness about the birth, early connection, and love for the child.

"…With the first child, it definitely was confusing in that sense that after I, I was giving birth to my first child, and then I didn't feel like such an immediate bonding or connection to the child. I still remember when I was at the hospital and the first night when I had the baby next to me on the, on her own bed and then I was looking at her or I was opening the eyes during the night and then she was there like you know she had her eyes open, and she was looking at me and am like okay hi I am like your mom. I think one issue with the fact is that I had quite a difficult birth experience with my first child, I had to experience a kind of extended birth experience…"

"…it included a lot of fears coming through and a lot of pain during the birth and the first months after the birth, so bonding or having that connection with the baby didn't come easily for me at all. And, and I think that is also one of the factors that, maybe made this depression to come in a way. So, I think that also took away the happiness about the birth itself and also about the child. So, it was, it was not so easy to find a connection with the first baby…"

"… I did not feel like I really was in love with my baby, and I did not feel like I was good for him…"

One of the mothers explained how her children had **good attachment** with her and her parents as they grew from childhood to early adolescent. However, some participants informed that they loved their child, formed a good attachment with the child and was responsive to the child 's needs and cues but even so, MPD made them wish that they ever had had the child.

"…They have a secure emotional attachment with me and my parents, they are not afraid of being different if what they enjoy is different from those of their peers…"

"…I loved my sons from the moment I met them. I got attached to them from pregnancy period. However, the depression symptoms set in when I had my first child and could not sleep as I had to keep watch on him all night… as much as I loved my kids, at the time when this whole thing was going on, I wished I never had my kids…"

Likewise, experience of MPD has been described to influence the maternal-child attachment by resulting into a **vulnerable attachment type** between mother and child especially from the mother. Some participants said that they had anxiety when separated from the child and difficulty reaching out for help when they need help with the child.

"*... when my children are away from me, for instance in day care or their father, I knew that they are completely fine but still for me like as a mother I felt really as a challenge to be without them I felt really like I am a bad mother when I'm not with my children..*"

One participant also explained how her child had **attachment to another primary caregiver** other than the mother since the mother became indisposed and could not care for the child due to her MPD. The child also had a separation illness when taken away from the primary carer. Participants said in the interview that,

"*...I divorced my children's father, I went with my daughter who was just 11months, however my daughter was always getting sick with me, so I took her back to the grandparents and then she stopped getting sick. I think she got used to her grandmother right from birth as I was indisposed, so she saw her as more of a motherly figure than me. Maybe she had this separation illness being away from her grandma...*"

6.5 The Effect on Child Developmental Outcome

All the participants gave a description of their child's developmental outcome which include **foetus's health/development, social competence, physical health, cognitive ability, mental endurance,** from the foetal stage through childhood and to adolescent.

When asked to talk about it, one participant explained how MPD did not really affect the **foetus's health/development** nor the child's birthweight but rather affected her own eating habit and health as an expecting mother.

"*...So, the first child was smaller than the second child. So, they had the difference, like 500 grammes half a kilo, approximately. So even if I had worse appetite with when expecting, it because of the depression also partly. My second child she was still a bigger baby...As I said*

earlier, it is I think that I did not know this, or they didn't even notice I think in the maternity care that there were there was not any like affection on their foetal development. The changes were in myself like losing weight or, at some point I had also high blood pressure…"

One participant explained how MPD did not affect her children's **social competence** from childhood to adolescent especially because they have the company of each other. While another participant**,** informed that the respective living condition/environment of her children has consequence on their social competence outcome in early adolescent.

"*…Socially and then overall I think they both were responsive. Even if it were a very difficult time for me, I mean physically and mentally to have small children at the same time, I think it would have affected one child much more to be alone, but then and now they have the company also and social context from themselves…"*

"*…my children were raised by their paternal aunt and uncle…my son was always accused of theft from both school and home. He bulled others and his result from school was always bad. Also, he was maltreated by his uncle's wife. This could have been a reason for his misbehaviour. My daughter on the other hand grew up well, healthy, and bright. She grew up with her other uncle whose wife was good to her…"*

Other participants explained about how MPD has no influence on the **physical health** of the child from childhood to early adolescent.

"*…my children are quite smart and healthy young adults now in healthy relationships…"*

"*…luckily, my children have no serious underlying health issues from when they were born until now that they are adolescents…"*

One participant also mentioned about the how MPD has no influence on the child's **cognitive ability.**

"*…my kids are well rounded, and they are thriving… my daughter is extremely intelligent and well-read…"*

When asked about their children's **mental endurance** from childhood to adolescent**,,** participants informed how she was also anxious as a mother thinking about how her depression could have affected the children while growing. However**,** the children turn out fine and calm**,** and also personality difference in the children also is a determinant of mental endurance. Other participants informed about the same subcategory on child's developmental mental endurance from childhood to adolescent. One mother explained that her MPD has reflected in her children during the late childhood to adolescent stage as the children portrayed bad behavioural pattern during the period but however did get better after the children received professional help. However**,** another mother explained that her children did not exhibit bad behavioural pattern but rather have good mental endurance and social competence. However**,** another mother explained that her children did not exhibit bad behavioural pattern but rather have good mental endurance and social competence.

"…I would say, normally calm in that sense. So now when they are both, like around 20 years old already so they have completely different personalities…to mention my younger daughter then she had some mental challenges at about eighth grade. She felt extremely stressed and then of course the environment, she said that she did not feel so comfortable, there was nobody who was bothered bullying, specifically but somehow as a personality she felt that she maybe does not maybe fit into this school so well, so she even wanted to change the school, at some point. This came up during the adolescent age, so they were just different characteristics, and they have different temperament as a child…"

"…my kids were at about in their fourth grades in school and they were becoming too violent in school. They were reported for yelling and bullying at their mates especially my first child. This continued for a while, and they started to see psychotherapist. The reason for this is not so clear. But clearly they could have picked up their anger issues from me, but they anyways got better and are now young healthy adults in healthy relationships…"

"…My daughter was very popular in school with all the guys and girls and the teachers too, she is extremely self-confident… my son loves to organise things and love building things too. He is very masculine, polite and having been raised without influence of his abusive father, he respects and value women…my kids love being tad non-conformist…" (sic!)

6.6 Support system

Here, support is referred to as the amount of help received, the person providing it, and satisfaction received from it during the period of MPD. Participants were asked in the interview about what support type they received, would have love to get to help them get through the time at which they suffered from MPD, and the importance and need of a support system. Subcategories here includes **need for support, physical and emotional support, support role of nurses, informative support, prognosis after receiving support.**

Participants informed about the **need for support** even when mothers do not intend to open up about their experience of MPD because of the stigma attached to it and how vulnerable it makes women look admitting to MPD.

"*...I started nursing school after losing my children to my husband because somehow I needed help... I was really mentally drained. I couldn't take it anymore...*"

"*...I think that it should be mandatory for mums to go to counselling after births so that they have a safe place to talk about any negative emotions that they have, I mean who's going to admit immediately that have postpartum depression, as in, this makes you feel vulnerable as if you cannot care for your child...*"

Participants told about how they did not get **physical and emotional support** but however wished they received these supports to ease their experience. Absence of physical and emotional support from spouse at the time of birth, was also mentioned for first time mothers.

"*...I felt I could not get enough emotional support from my husband. I felt being very alone, because I had no physical support... my parent and in-laws stay far away from us. This did not help matters. I wish I had some sort of physical support...*"

"*...I think those were kind of major issues and then also one important fact I want to mention is that my spouse wasn't able to make it to help me or to support me in the first birth situation. So, I was only by myself, and I was even a lot of alone in that room where I was giving birth*

because when I delivered, they (nurses and midwife) said that unfortunately they had very busy times…"

Participants informed about how they had wished for **support role of nurses** as health continuous checkers, health educators and promoters, and perhaps it would have alleviated her suffering. One participant discussed about the lack of support from the attending nurse at the postpartum care period, and described the nurse as unempathetic, and unresponsive to patient's feelings.

"*…The nurse should kind of screen more, more like thoroughly, what is my mental state and in reality, she knew that I have depressive feelings and depression and, but she kind of felt that it will be okay and it's normal that you have this like baby blues and. And I felt that she didn't take me like seriously…"*

"*…I wish I had some sort of support other than my family. e.g. psychotherapy treatment or some kind of maternity clinic nurse whom I could have told and could have guided more on what to do without leaving my children behind…"*

"*…I would have liked to have more support from the nurse at that time as well. I think it was partly because of the personality of the nurse who we had there at the time, she wasn't maybe so empathic or, or responsive so she was really like okay let us get this done with…."*

A mother also informed how getting **informative support** from someone in her social circle, was a life saver for her and her child.

"*…having this one best friend was kind of she was really literally saving my life…. So, and when I was able to talk about those to her, so she was immediately requiring that going now to the primary like health care do the emergency unit and then search for help and without her I don't know what would have happened so I needed her to help me out so just say and get me like to do real like take specific steps to yeah just to get to help with the depression…"*

Participants explained about the **prognosis of MDP after getting support.** Overall prognosis looks good after receiving supports.

"…with the second baby I think it went much better with a second baby the birth experience was much more natural. I was not having so much pain and the father of the child was there. it was so different…"

"…I think we should empower each other to reach out for help, give ourselves time and not be so supercritical on ourselves. With these it always gets better…"

"…My parents actually moved in with us after my divorce as I was the only child and they decided to help me through it all like caring for my kids when I need "me time", and supporting me emotionally, physically and with appraisals. I believe these are I needed giving me time to combine career with being a single mother of two…"

7 Discussion and interpretation of results

In this chapter, previously presented results will be condensed, interpreted, and connected in order to give significance to their meaning in nursing research and practice. The focus of this study was to understand the experience of perinatal mental health disorder particularly depression and the influence on maternal motherhood attainment, maternal-child attachment, and the child's developmental outcome with the purpose of identifying the need of maternal-child supports to alleviate adverse complication of the problem. This was adopted because of the significantly high rate of occurrence of perinatal mental health depression in Finland (THL, 2018) and in the world at large (WHO, 2020).

Findings from result showed that, as at the time informants were suffering from MPD, they find parenting difficult, do not see themselves coping with their child, and in fact, sometimes wished they never had the child. The mothers also narrated the experience as very dark moments of their lives which led to having suicidal thoughts and this could have been severely dangerous to the lives of mother and child if there were no support intervention. It also showed how mothers' physical health was affected leading to weight loss, high blood pressure and malnutrition during pregnancy. These are a couple of risk factors posing danger to mother and child since there may be less supply of blood, oxygen, and nutrient from the mother to the foetus. It could result in preeclampsia in the mother,

premature delivery, low birthweight or even still birth which could endanger mother and foetus health (Cunningham & LaMarca, 2018).

While discussing about the maternal experience of MPD, all the mothers ticked a lot of boxes in the risk factor groups as the underlying cause of their MPD. unintended pregnancy/teen pregnancy, birth experience, lack of socioeconomical support, domestic violence, spouse depression, marriage dissatisfaction, history of depression or mental illness, high expectations from a new mom by herself, her spouse, or relatives around her, stressful life situation among other factors were the underlying causes of MPD from informants' experiences. These correlate with the group of risk factors leading to MPD as indicated from longitudinal studies (Silverman et al., 2017). It is also important to note that MPD led to the divorce of three among all four participants as mother- father relationship went on so wrong. This shows what danger MPD can pose to marriages and consequently creating an unstable environment for the child (Clark, 2013).

It was seen from the study that MPD has little or no adverse effect on maternal-child attachment. In fact, it was observed that, MDP rather create a psych problem which makes a mother overprotective of the child and also feel she can take care of the child singlehandedly while in the actual case, it takes a community to raise a child as explained in Romana Mercer's theory (Meighan, 2014). However, on the hand, birth experience has an adverse effect on MDP which in turn affects early mother-child interaction, as mothers are unable to maintain steady contact with the child while dealing with their own mental depression. It was revealed from the study also that a child was attached to another primary caregiver other than the mother since the mother became indisposed and could not care for the child due to her MPD. The infant was constantly getting sick (had separation illness) when taken away from the primary carer and did not get well until the infant was returned to the primary caregiver. This is practical test to the Bowlby maternal deprivation hypothesis (Akhtar, 2012) described in chapter 4 of this thesis.

As previously cited from Mercer's theory (Meighan, 2014), maternal role attainment has four successive stages. The commitment attachment and preparation stage which begins during pregnancy, when the mother learns the expectations, and fantasizes about the maternal role. This study reveals that with or without the presence of MPD (antepartum

depression), the stage will be begin and even go well with the mother, as identified that MPD does not affect the maternal attachment to child. The second and third stage which are regarded to as the formal and informal stages begins with the birth of the child, early interaction with the child, learning and taking up maternal role and consensual expectation of others in the mother's social system (Meighan, 2014). This stage is most difficult for mothers experiencing MPD, especially first-time mothers with MPD. This is because as revealed from this study, MPD negatively influence early interaction with the child therefore, making it difficult for mothers to learn and take up maternal role. Also, high expectation of the mother and other people in the mother's social circle put lots of pressure on the mother and make things more difficult for her. As a result, a mother will feel guilty and incompetent, and may extend the time frame to reach the final stage (maternal role attainment) for mothers with MPD. this will together consequently influence negatively, maternal experience of harmony, self-esteem, confidence, and competence in the way she performs her role, as also revealed from the results of this research. It also elongates the time frame for maternal role attainment which is the time the mother can begin to feel satisfaction and enjoyment of mother. In fact, some of the mothers explain they felt motherhood satisfaction when their children became successful adults.

This study also reveals the influence of MPD on child's developmental outcome from foetal stage to early adolescent. Although it is difficult to directly tell the influence of MPD on a foetus, however child general health at birth was asked at interview and mothers informed that on the general, all their children were born healthy (this includes child birthweight and general physical health). It is important to note that none of the mothers indulged in unhealthy habits that could endanger the child's health e.g., smoking or alcohol. In fact, one of the mothers explained that she lost weight a lot during her child pregnancy as a result of her depression while the child was even 500grams bigger in birthweight compared to the first child. The first child had sleep and eating disorder as a child while the second child does not. Other mothers however informed that their children slept and ate well and even the male children among the informants' children were hyperactive, that the mothers could not cope due to lack of energy. All the mothers informed that their children were smart, healthy and reach their developmental milestones at the time they

expected. Mothers also informed about how their children were exceptionally smart in their adolescent stage, had a great social circle. Overall, this reveals an insight of how MPD has little or no negative influence on the child's cognitive/mental development, social competence, and general health from birth to early adolescent.

However, information about mental endurance of the informants' children at adolescent were quite contradicting. Two of the mothers informed that their children picked up bad behaviours such as bully, theft and getting angry so quickly. One mother said her children could have picked up the yelling and getting angry quickly from her. While the other mother explained that her child was adopted and lived in an unstable environment which could have led to picking up bad behaviours. A third informant informed how one of her children had to visit the psychiatric hospital because the child was stressed from school and could not fit in. School was changed as she requested, and it became better while the other child has a good mental endurance. However, the mother thought this was resulting from the complete difference in both of the children's personalities. One mother explained how her children were very rounded and did very well in their adolescent period until adulthood. In general, from the information given by the interviewed mothers, MPD is not the greatest risk to a child's mental endurance outcome but the danger it poses which include an unstable and unbalanced environment for the child to grow (Clark, 2013).

Additionally, this study informed the kind of support the mothers received, would have love to get to help them get through the time at which they suffered from MPD. The importance and need of a support system were highlighted during interview sessions. Mothers informed that, they did not get enough emotional support, and physical support from their spouse nor social circle and wished they had these supports, perhaps it could have helped them with their MPD. One of the mothers noted that she needed psychotherapy but could not get because of the part of the world she was (Africa where MPD is stigmatized) but rather enrolled into nursing school to become a psychiatric nurse to help herself after giving up her children for adoption. Another mother also informed how the attending maternity nurse she had at the postpartum clinic was not interested in her depression symptoms, which made the mother more withdrawn to disclosing her depressive symptoms and suicidal thoughts, however a friend in her social circle (also a

nurse) identified she needed emergency psychiatric treatment because she had suicidal thoughts.

As described in Mercer's model, the micro- and mesosystem are the most influential factors in maternal role attainment and child development (Meighan, 2014) and thus, stand as the support system for mother and child if represented well. These factors include mother-father relationship, social, political, cultural, and religious influences, healthcare environment and policies etc. The support system category of this study has shown how a bad healthcare environment/professionals, social support, cultural influences, and mother-father relationship can worsen MPD and if these factors are favorable, can alleviate MPD suffering and its consequence on mother and child.

Additionally, mothers revealed how the postpartum depression scale test which is done at the postpartum check-up is not enough. Despite having all symptoms related to MPD, mothers who experienced MPD always have it difficult to admit to themselves nor to anybody what they are suffering, not even in their antepartum or postpartum hospital screening. Some mothers explained how this makes them feel vulnerable and admitting being incompetent in caring for their child. Other facts include that those mothers were also scared of the thoughts of social services being involved in their lives with their children (at least, this was the case for the immigrant mother). This calls for the need for maternity nurses to pay better attention to mothers and not just handing over the PPD scale paper to the mothers. It is important for nurses to be able to confront the situation and educate people especially mothers that, MPD is a mental disorder resulting from their present life situation as being a new mother, it is temporary if there is early intervention and has nothing to do with maternal love for her infant (CDC 2020). So that, mothers can be bold to tell how they really feel in order to get treatment. This can go a long way in helping mothers who might not know how to seek help for their MPD.

Finally, mothers noted that the prognosis of MPD is good as the mother get more experienced and internalises her role as a mother despite the risk factor which led to her MDP. Also, the presence of support system will also help to get over the MPD quicker than if there is none.

8 Ethical consideration

In research, many ethical considerations are involved particularly if the study is involving humans. The encyclopaedia Britannica defines ethics as the branch of philosophy that seek to put in place good application of moral notions such as right and wrong, good, and bad. They provide us with behavioural norms and guidelines. According to the council for international organisation for medical sciences (2020), research is an activity design to develop and contribute to generalisable medical knowledge or the accumulation of information. Ethical review is important to avoid violation of responsible conduct of research, (the RCR).

Research on humans involves studying any aspect of human functioning or behaviour either at the individual or societal level. Nursing research is an example of a non-invasive health/medical research. Fundamental ethical principles in non-invasive health/medical research includes (1) choice of topic must not be against any human ethics and principles (2) permission must be sought from ethical committee or administrative nurse of the healthcare centre (3) respect for persons (dignity, power of autonomy, informed consent which can be withdrawn at any time by the participants, protect people with diminished autonomy) (4) avoid harm (causing mental harm e.g. anxiety, depression or revealing participants identity), and find a balance between avoiding harm and maximizing the benefits to yield result for the good of the society (TENK, 2019). The researcher must also respect the material and immaterial cultural heritage of the participant (Declaration of Helsinki 1964).

For the purpose of this thesis research work, all of the aforementioned ethical guidelines from the Finnish National Board on Research Integrity (TENK, 2019) are upheld in the process of conducting and analysing the interview with the informants, and the research as a whole. For instance, according to TENK 2019 ethical guidelines, submitting questions randomly and anonymously while taking and using people's response and information on social media groups (containing mothers suffering and had suffered from pre-partum and/or postpartum depression) is considered unethical since this is also indicated as rules and regulations in most of the groups. Therefore, letter of consent/invitation for

participation was made, corrected, and approved by thesis supervising teacher before been sent to the various groups.

Additionally, among the five informants who agreed to be interviewed, only four were able to participate successfully to give extensive answers to the interview questions. One informant who agree to participate in the interview dropped out in between for unknown reasons. Interview session was dropped with the participant without any further questioning for the respect of person's autonomy. Furthermore, personal information of all successful participants was removed in accordance with data protection guidelines for research, and participants are represented anonymously.

9 Critical review

Validity in qualitative research as illustrated in figure 3, refers to as the extent of trustworthiness, reliability, credibility, dependability and confirmability of data and its interpretation (Creswell, 2017). Validity and reliability for this study is ensured by,

- Prolonged engagement and persistent data gathering to ensure conclusions are not drawn based on idiosyncratic experience with the phenomenon.
- Use of rich, thick description to ensure a sufficient level of details about the phenomenon is drawn so others can draw similar conclusion.
- Triangulation such as using multiple sources to build a complete picture of the phenomenal studied.
- Member checking which involves presenting the data and findings of the study to the original informants if their perspectives were actually portrayed.
- Presenting negative or discrepant information which acknowledges findings contrary to the study key themes.
- Clarifying researchers bias so as not to taint the research conclusions.

- External auditor (supervisor) debriefing to review and check for consistency in the whole research to ensure the whole study makes sense.

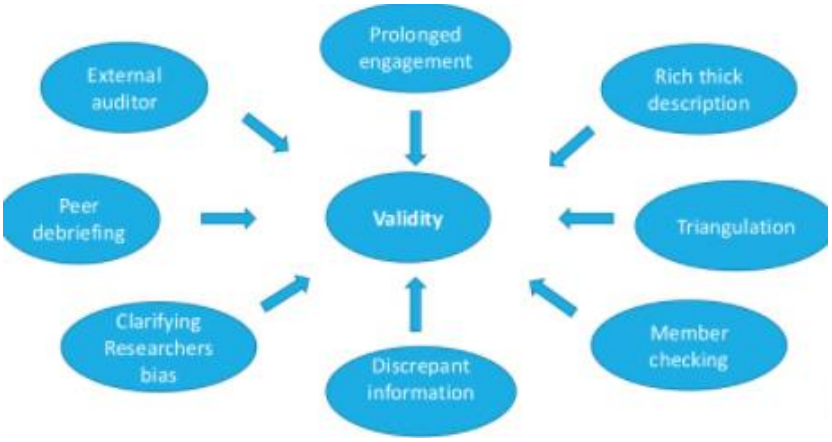

Figure 4. Validity in qualitative research

Here, this chapter will critically evaluate the whole study by looking into the strengths and weaknesses in the realization of the study. The strength of this study includes that it has three of the four criteria when examining the validity of a study. This includes credibility, dependability, and confirmability (verifiability) of data and its interpretation (Polit & Beck 2012; 584-585).

During the data collection process, informants participated voluntarily and answered to the interview questions first-hand (by mouth or writing). One informant who participated at the beginning of the study opted out in between for reasons unknown and all prior information she gave was removed from the study altogether. More importantly, the remaining informants had no reason to lie because it was their choice to participate as they wanted to tell their story as regards to the research study. This lay emphasises on the credibility of the data collected. Likewise, during data analysis, participants were available for time to time questioning to ensure their perspectives were portrayed. In this way, the study is dependable.

One main weakness of this study is transferability, that is the inability to generalise. As can be seen in the results that there are lots of contrasting opinions about how MPD influences the child developmental outcome. For instance, the total number of participants was four and they all had two children each while they had MPD around these children's

antepartum and postpartum period respective. It was reported that some (four) of the children had low mental endurance while others (four) were better in the early adolescent. Of course, this may be circumstantial and results from personality differences since we had very few numbers of participants to compare results and generalise. However, there are qualitative studies that link MDP with risks of adolescent depression (Monti & Rudolph, 2017).

More so, some studies also highlighted the effect of MPD to increased risk of asthma (Giallo et al., 2015) and lower lung functioning in children (Van Meel et al., 2020). This was contrasting with the results from this study as mothers reported all their children as physically healthy. Therefore, a follow up qualitative and longitudinal study with a better sampling which will include the mothers who suffered MPD and their adolescent children, can be done to give better insight to this.

Additionally, some part of the results is verifiable (that is, influence of MPD on maternal/child attachment, maternal role attainment and support systems) as it confirms background theory and hypothesis. Other parts of the results (that is, influence of MPD on child developmental outcome from birth to early adolescent) still need more research to generally verify the interpretation of the results while including other factors and moderators such as social environmental factors (child day care, school, parent work settings, friends/peer group) and cultural factors.

10 Conclusion and recommendation

This study aims on understanding the experience of maternal perinatal depression (MPD) and the influence on motherhood attainment, maternal/child attachment, and child developmental outcome with the purpose of identifying the need of maternal/child supports to alleviate adverse complication of the problem. This study was inspired because of the author's interest in mental health and maternal-child nursing as a career option in the nearest future.

The experience of MPD was well described to a full extent to the understanding of the author and was well presented in the results of this thesis. The description of the experience showed that MPD presents mothers with horrible and devastating feelings which may lead to suicidal thoughts that may endanger both mother and child's safety.

It was seen from the study that MPD has little or no adverse effect on maternal-child attachment. However, from the study MPD negatively affects the early child interaction with mothers, since during MDP mothers usually have less energy both physically and mentally to interact efficiently with their child. It was also revealed from the study that a child may be attached to another primary caregiver other than the mother if the mother becomes indisposed and could not care for the child due to her MPD.

In addition, MPD elongates the time frame for maternal role attainment (which is the time the mother can begin to feel competent, satisfaction and enjoyment of motherhood). This means, the longer it takes for the mother to settle into her role mother, the longer it takes for her to be able to parent properly and create a stable environment for the child.

This study also reveals an insight of how MPD has little or no negative influence on the child's cognitive/mental development, social competence, and general health from birth to early adolescent. However, information about mental endurance of the informants' children at adolescent were equally contradicting. Although these results lack generalizability, therefore this aspect may be open to future research using a better sampling as explained earlier.

Additionally, the importance and need of a support system for mother and child were highlighted. All mothers wished for emotional support, appraisals, physical support from their spouse and social circle. More importantly, mothers wished for profession care from their contact nurse. This calls for the need for nurses to pay better attention to mothers and not just handing over the PPD evaluation scale to the mothers. This is because mothers suffering from MPD usually do not open up about it due to surrounding factors such as feeling vulnerable, stigmatization etc. but they still wish their maternity nurse will understand somehow. This can go a long way in helping mothers who might not know how to seek help for their MPD.

The results indicate the importance of good maternal perinatal mental health cannot be overemphasized for the wellbeing and safety of both mother and child. The essence of support systems including nursing role as part of the support system involves that nurses must act as continuous checkers, health promoters and educators. Symptoms and its intensity are individual, and therefore patient-centred-care and situational treatment of the condition must be given for each individual. The combination of this can lead to mental health intervention and empowerment for both mother and child whether it influences the child developmental outcome or not, thereby promoting a healthy society.

Finally, mothers noted that the prognosis of MPD is good as the mother get more experienced and internalises her role as a mother despite the risk factor which led to her MPD. The presence of support system will also help to get over the MPD quicker than if there is none.

Further development on this thesis can also be made on recent nursing interventions for MPD and the outcomes, as nursing intervention remain less mentioned although this is important in mental health, paediatrics, and maternity nursing.

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1 Letter of consent seeking for thesis interview participants.

Hello! My name is Opoola Fatimoh., a nursing student of Novia university of applied science, Finland. I have an ongoing research work for my thesis. This survey is to study and understand the influence of maternal depression on the child's development from foetal period to early adolescent stage. The result of the research is to help understand, create more awareness and interventions for the situation. In order to get a better understanding of the research questions, the interview would be preferably one-on-one (Facebook, teams or WebEx meeting can be created for this purpose), but if any participant would feel uncomfortable and prefer to write about the experience instead, there is a question form created for this purpose. participant can help fill out their answers in a descriptive manner into this form. Feel free to send me a personal message on my Facebook messenger or email; fatbal@edu.novia.fi and for more information or verification, my thesis supervisor/co-author can also be contacted Terese.Osterberg@novia.fi

Please be informed that ethical principles of research are observed (name and other personal information of participants will not be published) and participation is voluntary. Additionally, participants can choose to drop out at any time, should they feel uncomfortable about it. Thank you for your cooperation!

2 Interview questions

The following themed interview questions are grouped into seven categories. The questions have been derived from the nursing theoretical framework used for the study (Mercer's theory).

Categories	Themed questions
Maternal behavioural pattern	• Have you suffered from depression as a mother during your child's prepartum and postpartum period, can you tell about this experience? • How did this affect your sensitivity to your child cues? • How has this affected your self-esteem/self-concept as a person and as a mother
Child behavioural pattern	• Can you tell about your child's behavioural pattern during infancy (0-18months) including temperament, ability to give cues that requires response from you as a mother? • Can you tell about your child's health at infancy (illness resulting from mother-infant separation)
Mother-father relationship	• Can you tell about the relationship between you and your spouse at time between the antepartum and postpartum period until early adolescent?
Family functioning	• What can you tell about your individual view of the relationship between your family and its subsystems (father, mother, fetus/infant), and broader social units
Maternal role attainment	• Did you feel enjoyment, satisfaction, competence, pleasure or reward a woman experience in interacting

	with her infant and in fulfilling the usual mothering tasks? If yes, at what age in your child life was this? • Did the depression which you suffered allow you a maternal attachment with your child? If yes, at what point in your child's life was this? • How has depression affected your motherhood/maternal role attainment (internalized view of seeing oneself as a mother)?
Child developmental outcome	• how has maternal depression influence your child's development during foetal to infancy stage (cognitive/mental development, social competence, health, behaviour/attachment)? • how has maternal depression influence your child's development during childhood (cognitive/mental development, social competence, health, behaviour/attachment)? • how has maternal depression influence your child's development during early adolescent (cognitive/mental development, social competence, health, behaviour/attachment)?
Social support	• Did you get any form of support during this period? if no, what kind of support may be provided for mother and child to alleviate adverse complication of the problem? (Social, emotional, physical, and appraisal)