

**THE LIVED EXPERIENCE OF MOTHERS WITH INFANT ADMITTED
TO NEONATAL INTENSIVE CARE UNIT (NICU) IN HOSPITAL
UNIVERSITI SAINS MALAYSIA, KELANTAN:
A QUALITATIVE STUDY**

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ABSTRAK

Pengenalan: Peningkatan jumlah kemasukan bayi ke Unit Rawatan Rapi Neonatal (NICU) setiap tahun menunjukkan bahawa lebih ramai ibu yang perlu melalui pengalaman yang traumatik ini. Kajian menunjukkan bahawa ibu-ibu mempunyai tahap stress yang lebih tinggi berbanding bapa sepanjang perawatan bayi di dalam NICU.

Matlamat: Untuk meneroka cabaran dan strategi ibu dalam menangani kesukaran untuk merawat bayi di NICU di Hospital Universiti Sains Malaysia, Kelantan.

Methodologi: Ini adalah kajian kualitatif yang mengadaptasi kerangka fenomenologi sebagai cara analisa maklumat. Tujuh belas ibu kepada bayi yang dirawat di NICU Hospital Universiti Sains Malaysia, Kelantan, telah mengambil bahagian dalam temubual secara mendalam dalam tempoh Februari hingga Oktober 2020. Temubual tersebut telah direkod suara, ditranskrip dan dimasukkan ke dalam perisian analisis computer NVivo® bagi tujuan pengurusan data. Transkrip tersebut dianalisa menggunakan analisis bertema berdasarkan ‘Stress Process Model’ dan ‘Systematic Self-reflection of Resilience Strengthening theory’.

Keputusan: Hasil kajian menunjukkan tiga cabaran utama yang perlu dihadapi oleh ibu dalam merawat bayi di NICU. Ini termasuklah halangan dalam menjaga bayi di NICU, emosi yang tidak stabil, sekatan perjalanan. Namun, semua ibu yang terlibat berjaya melalui kemelut ini dan telah mencapai ketahanan melalui sokongan sosial dari keluarga dan masyarakat, melengkapkan diri dengan ilmu pengetahuan, dan kebergantungan kepada Tuhan.

Kesimpulan: Penemuan ini memberikan pemahaman yang baik tentang bagaimana cabaran para ibu dalam merawat bayi di NICU terutamanya dalam situasi pandemik COVID-19. Kajian

ini juga turut menekankan pelbagai kaedah yang digunakan oleh ibu-ibu dalam menangani cabaran untuk menjadi seseorang yang berdaya tahan tinggi.

Kata Kunci: unit rawatan rapi neonatal (*NICU*), ibu stress, cabaran, cara menangani, ketahanan

ABSTRACT

Background: Increasing numbers of infant being admitted in Neonatal Intensive Care Units (NICU) each year showing that large numbers of parents are going through traumatic experiences. Studies showed that mothers experienced a higher level of stress compared to father in response towards infant hospitalization in NICU.

Aim: To explore the challenges and coping strategies of mothers with infant admitted in NICU in Hospital Universiti Sains Malaysia, Kelantan.

Methods: This qualitative study adapts phenomenological framework. Seventeen mothers with infant admitted in NICU Hospital Universiti Sains Malaysia, Kelantan that fulfilled the criteria participated in in-depth interviews from February until October 2020. The interviews were audio-recorded, transcribed verbatim and transferred to analytic computer software NVivo® for data management. The transcriptions were analysed using thematic analysis based on the Stress Process Model (SPM) and Systematic Self-reflection model of Resilience Strengthening theory.

Results: Findings revealed three main challenges that mothers need to face in nurturing their infant in NICU. These include emotional instability, difficulties in nurturing infant in NICU, and movement restrictions. However, through family and societal support, self-empowerment, depending on God, all mothers successfully passed this crisis and may have developed resilience.

Conclusion: Our findings provides better understanding of how mothers' experience challenges in nurturing infant in NICU especially during pandemic COVID-19. This study

also highlight various coping strategies embraced by the mothers in order to become resilience.

Keywords: neonatal intensive care unit, maternal stress, challenges, coping, resilience

Chapter 1

INTRODUCTION

1.1 CRITICALLY ILL INFANT IN NEONATAL INTENSIVE CARE UNITS: MY INITIAL JOURNEY

My interest with mother experiences in handling an infant being admitted to neonatal intensive care unit (NICU) began in 2013 when my older and younger sister both had premature infant. One of my niece was admitted to NICU due to prematurity with 1.6kg birth weight and subsequently need to underwent hernioplasty as he developed obstructed scrotal hernia. He was admitted in NICU for 45 days. I have gone through my paediatric posting in 2011 and seeing a lot of mothers nurturing their infant in NICU was a common situation back then. None of the case I have encountered have left a mark on my heart until it happened to my own family member.

Both of my sister stayed together with me in my mother's house during their confinement period, it was back then I realized the struggle they need to face and seeing them going back and forth to hospital to care for their infant during the confinement period had affected me since then. I learned a lot of new things in order to support them however I've failed at that time. My younger sister was diagnosed with postpartum depression and she needs to take medication for her medical condition. It was at this juncture, it struck me. I have failed to help my sister and even worse I have failed to treat my own family member as a doctor!

My sister was unable to perform her role as a mother not only to her critically ill infant in NICU but to her other children at home. Her mental health condition indirectly affected her relationship with her husband and all family members. I felt guilty for being helpless at that time but fortunately she was able to recover with the help of counselling, good family support and compliance towards medication.

This valuable experiences made me realized the importance of understanding mother experiences in nurturing infant in NICU in order to manage them holistically and provide optimal care to the patient and their family. I hope many will benefit from this study and this valuable input could help me to become a good future family physician.

1.2 INTRODUCTION

The birth of an ill and/or premature infant and subsequent admission for specialised neonatal care is an acute emotional crisis and creates a stressful situation for parents. Apart from that, nurturing an infant in NICU poses many challenges, which includes psychological, emotional, and physical challenges (Al Maghaireh et al., 2016). All mothers with infant admitted in NICU described their early experiences of motherhood as highly traumatic and distressing (Aliabadi et al., 2014). Mothers felt sad, fear, anxious and powerless during nurturing infant in NICU (Alinejad-Naeini et al., 2021a). This emotional challenges make mothers need times before they can fully bond with their infant and performed their role as a primary caregiver (Alkozei et al., 2014).

Besides emotional challenges, mothers described other challenges in nurturing infant in NICU were challenging NICU environment with difficult infant care technique, infant's fragile bodies and medically compromised, as well as maternal factor such as lack of experiences and poor maternal's health (Abuidhail et al., 2017, Lee et al., 2009b, Arnold et al., 2013). Systematic reviews revealed that the overarching theme in exploring parental experience in Neonatal Intensive Care Unit (NICU) were stress of hospitalisation, alteration in parenting role and impact of infant hospitalisation on psychological and emotional (Al Maghaireh et al., 2016).

All the challenges that mothers need to face during nurturing their infant have become barriers for them to develop mother-infant attachment (Alkozei et al., 2014). The delay in developing mother-infant bonding will negatively affect mothers' well-being and infant's emotional, development, and cognitive later in life (Del Fabbro and Cain, 2016). A cross-sectional study on parental stress and its influencing factor in the NICU was done in one of the tertiary hospitals in Kelantan, showing that mothers had a higher level of stress compared to fathers of infants admitted in NICU (Lim et al., 2017). These high levels of distress will increase the risk of postpartum depression in mothers and affect mothers' well-being (Malakouti et al., 2013, Holditch-Davis et al., 2015).

Abundance of literature on mothers' coping strategies showed that mothers sought support from health care team, family members, other parents in the NICU and religious or spiritual beliefs (Alinejad-Naeini et al., 2021b, Rossman et al., 2017). In addition, mothers empowered themselves with knowledge regarding their infant's condition, NICU languages and infant care techniques in order to adjust and adapt with the difficult situation (Umberger et al., 2018). Resiliency developed once the mothers change their role from outsiders to engaged parents. The more they involved, the more they become confident, decreased their level of stress and strengthened their self-efficacy in nursing their infant in NICU (Heinemann et al., 2013b).

In Malaysia, about 12.3% of deliveries are preterm births, which are about 500,000 preterm babies yearly. Based on the Malaysia National Neonatal Registry 2017, data showed that out of 294,393 livebirths, about 6,449 (55.3%) are premature (<37 weeks) and 3,764 (22.9%) are less than 1,500 g birthweight (Malaysian National Neonatal Registry, 2017). Worldwide,

preterm birth is the leading cause of death among children under 5 years old and the most common reason for NICU hospitalization. Data showed that developing countries have the highest rate of preterm birth and the numbers are increasing in trend over the years (World Health Organization, 2018).

Based on the admission data to NICU, large numbers of mothers in Malaysia are going through these traumatic experiences and they have showed a higher level of stress compared to father (Lim et al., 2017). American studies reported prevalence rates of postpartum depression (PPD) from 5 to 25% (Paulson and Bazemore, 2010), meanwhile in Malaysia, the pick-up rates were almost similar to Western results, between 6.8 to 27.3% (Arifin et al., 2018; Mukhtar and PS Oei, 2011). Therefore, the findings indicated that there is an urgent need for studies among Malaysian mothers to help them go through this crisis and maintained good mothers' wellbeing. Qualitative research using phenomenological approach was the best method to gain the knowledge in this (Liamputtong, 2020).

The central focus of phenomenology approach was to explore the mothers' lived challenges and coping strategies in nurturing infant in NICU. Therefore, Stress Process Model (SPM) and Systematic self-reflection model of resilience strengthening are the underpinning theories that can help in better understanding of these mothers' lived experiences. The SPM was suggested to demonstrated the interrelation between maternal stress and various factors influencing the caregiving process for a NICU infant (Pearlin, Mullan et al. 1990). Meanwhile, Systematic Self-Reflection model of Resilience Strengthening has been proposed to help us understand the adjustment and adaptation of mother in order to become resilience throughout caregiving of their infant in NICU (Crane et al., 2019).

There were five domains in SPM with each domain consists of multiple components. The domains are: (1) the background and context characteristics of mothers caring an infant in NICU; (2) objective and subjective primary stressors; (3) role and intrapsychic secondary strains; (4) internal and external mediators; and (5) mothers' well-being outcomes (Pearlin et al., 1990). Using this model, we are able to obtain the stress process which not only focus in identifying the maternal stressor in caring an infant in NICU but also to elaborate the relationships among the stressors and also how does these relationships develop and change over time. According to this model, emotional distress is likely to be affected first and eventually mother's physical well-being if mother persistently failed to overcome the stressor. The lack of resources to meet the mother's need and support can further contribute to poor maternal outcomes.

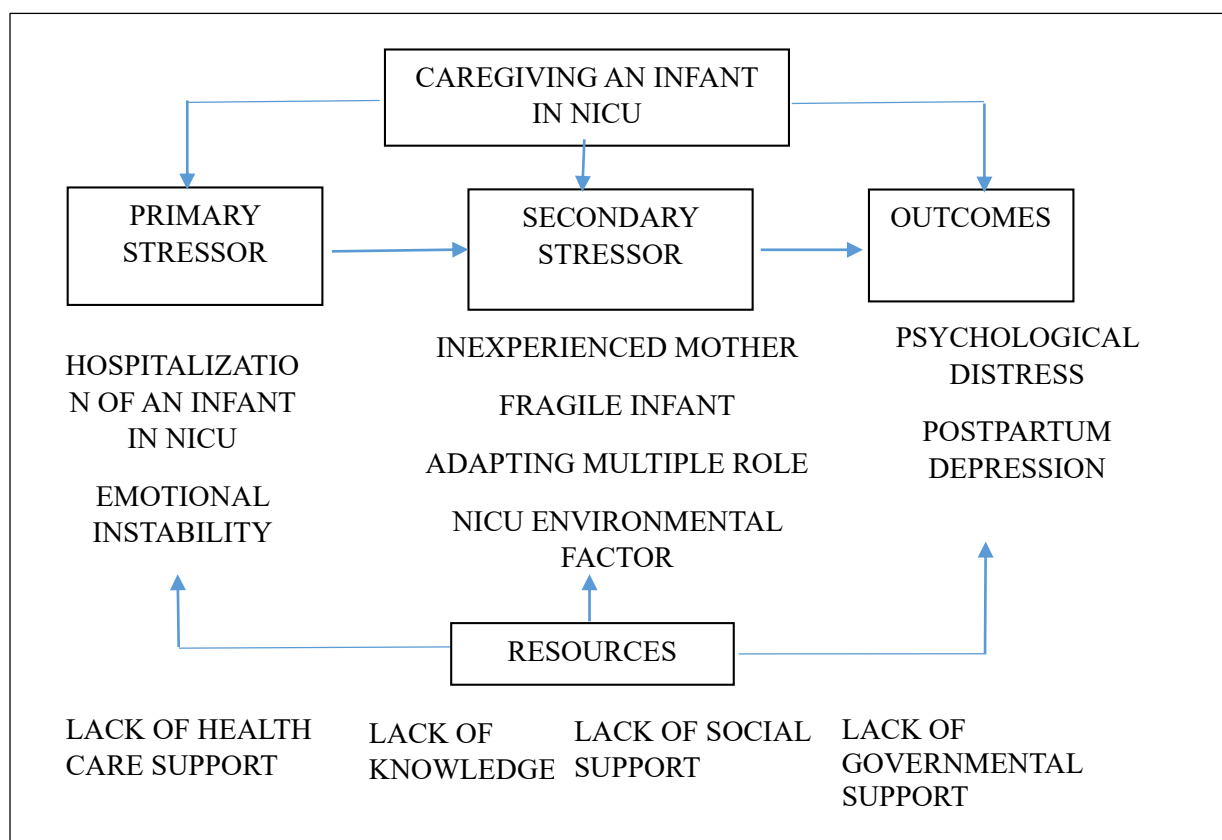


Figure 1. Stressors faced by mothers based on Stress Process Model. Adapted from Pearlin et al.(1990)

As caregiving is a long term process, mothers may respond to the difficulties and hardship in varying ways. The differences in mothers' reaction towards stressors and challenges are a growing interest in research as it is crucial for health institutions and policy makers in providing holistic care approach and improved quality of care. As a result, the second model used was Systemic Self-Reflection model of resilience strengthening developed by Crane and Searle (2019) to explore mother's coping strategies in nursing infants admitted to NICU and become resilience in their lives.

The Systematic Self-Reflection model describes how mother's metacognitive processes (self-reflection) as the key mechanism in strengthening resilience reacts to a diversity of stressor events such as the hospitalisation of infant in NICU and further develop maternal skill and maturation. In order to trigger a conscious self-reflection, there must be a presence of psychological stress experienced. In the absence of psychological stress, no self-reflection is triggered because mother is able to meet the demands of the event and therefore does not raise questions about how responses could be improved. Self-reflection facilitates the capacity to evaluate task-orientated coping and problem-solving strategies (Crane et al., 2019).

In the Systematic Self-Reflection model, the capacity for mother's resilience includes three broad elements: (1) coping resources, (2) usage of coping and emotional regulatory repertoire, and (3) resilient beliefs that help to increase the likelihood of resilient outcomes. Coping resources are the available practical, cognitive, motivational, and social resources that can help mother to cope with stressors. Mother's coping resources will directly influence the usage of coping and emotion regulatory repertoire available to meet the demands and develop variability of coping skill and the ability to apply different skill over time. Resilient belief such

as self-efficacy, hope, a growth mind-set, and optimism, are factors responsible on how successful mothers can interact with the environment, adapt and develop self-esteem (Crane et al., 2019).

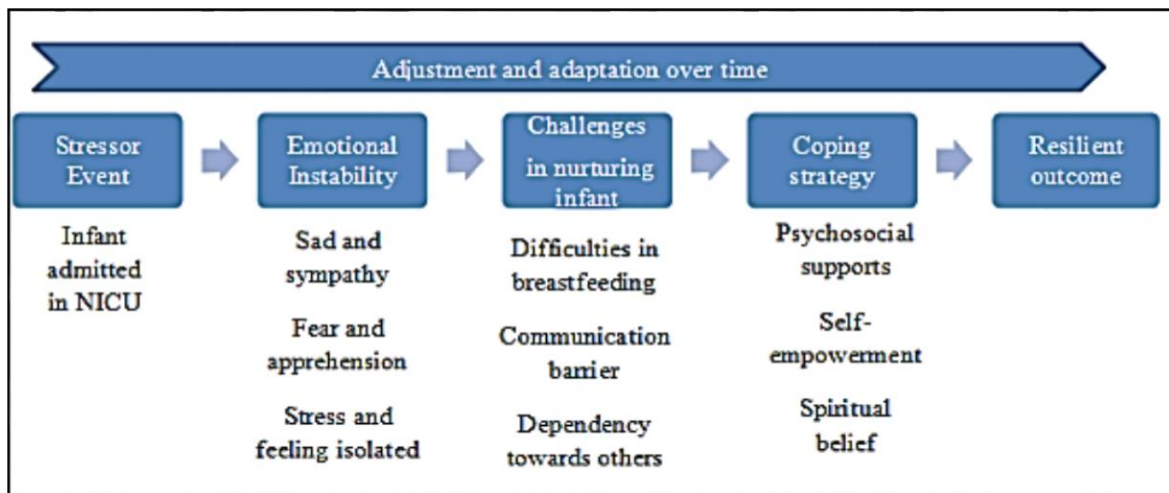


Figure 2. Resilience strengthening based on Systematic self-reflection model. Adapted from Crane et al. (2019)

1.3 RATIONALE

As mentioned earlier, large numbers of mothers in Malaysia are going through traumatic experiences when nurturing infant in NICU. Studies have also shown that the prevalence of postpartum depression among mothers in Malaysia were comparable to the Western countries although having different cultural background. There are a lot of similar studies done abroad but none to describe in Malaysian context. Very few qualitative study conducted in Malaysia describing in detail the maternal stress factors, challenges, social support in order to nurse a sick infant in NICU during their postpartum period. Understanding the mother's experiences will give better preparation for health care providers to meet mother's needs and alleviate their suffering. Thus the purpose of this study is to contribute not only to

the reflection on mothers' experiences and improvement of procedure that facilitate the adaptation of a mother in handling sick infants but also to enhance the quality care provided.

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Chapter 2
**OBJECTIVES OF THE
STUDY**

2.1 GENERAL OBJECTIVES

To explore the lived experienced of mothers with infant admitted to NICU, Hospital Universiti Sains Malaysia, Kelantan.

2.2 SPECIFIC OBJECTIVES

1. To explore mothers' challenges in nurturing infant in NICU, Hospital Universiti Sains Malaysia, Kelantan.
2. To explore mothers' coping strategies in handling infant in NICU, Hospital Universiti Sains Malaysia, Kelantan.

Chapter 3
**STUDY PROTOCOL
SUBMITTED FOR
ETHICAL APPROVAL**

3.1 INTRODUCTION

Infant-mother attachment, a theory by Bowlby, is an affection tie that a baby forms to his mother figure, binding them together in space and enduring over time (Ainsworth, 1979). Mothers' feeling of attachment is developed even before the babies were born and they are expecting to care for their new-borns and would limit situations that interfere with this relationship (Bowlby, 1982). Mothers consider proximity to their new-borns to be essential for them (Nystrom and Axelsson, 2002). However, the early separation and prolonged hospitalisation of the infants disrupt the relationship and delayed the maternal attachment (Lee et al., 2009; Nystrom and Axelsson, 2002).

Based on Report of the Malaysian National Neonatal Registry (MNNR) in 2014, there were a total of 309127 live births and 2204 stillbirths in the 41 participating centres. A total of 12723 babies (4.1%) were admitted to the level III NICU. Approximately 61% out of a total of 12723 babies, who were admitted in the NICU, were born less than 37 weeks and 3716 babies (29.2%) were of birth weights of 1500 g and below (Kutty et al., 2018). The numbers of admission to level III NICU were static compared to MNNR Report in 2012 (Chiong et al., 2012). Annual report in 2016 by University Malaya Medical Centre (UMMC) showed the numbers of admission to NICU were decline to 2.8% however there was increased in length of stay in the NICU from 14 days to 16 days. Furthermore, the numbers of ventilated patients increased as much as 20.5% (Pusat Perubatan Universiti Malaya, 2016).

Miles, Wilson, and Docherty described mothers' greatest source of stress was separation from their new-born. Seeing their sick new-born was also stressful and evoked shock, fear, denial, guilt, and helplessness due to infant's small size and immature response (Holditch-Davis and Miles, 2000). They were not clearly understood the complex disease of

their infant and the prognosis of the disease (Malakouti et al., 2013). Their very fragile babies make them concern about the survival of their babies and their long term complications (Lee et al., 2009). A cross sectional study done in one of the tertiary hospital in Kelantan showed that mothers had a higher level of stress compared to father of infants admitted in NICU (Lim et al., 2017). These high levels of distress will have increased the risk of postpartum depression in mother and endanger the mother's health (Malakouti et al., 2013).

Mothers' most important source of satisfaction was support from the health care team (Miles, Wilson, & Docherty, 1999). Thus, growing awareness of how difficult these experiences can be for parents especially mother, has contributed to significant changes to enhance family-centred care within NICU. Family-centred care involves health care professionals actively considering parents' experiences of having sick infants, and emphasizes on the importance of parental role such as participating in making decision of their babies and has the opportunity in choosing the best therapeutic option in managing their babies' condition (Case-Smith, Allen, & Pratt, 2001; Cleveland, 2008).

In conclusion, understanding mothers' lived experiences are crucial because it offers a snapshot of the realities faced by mothers in nursing their sick infant in NICU, HUSM, Kelantan. In Malaysia, there is lack of published qualitative data regarding this issues. We only have published data from other countries. Thus, this research has resulted in new insights into the lives of mothers with infant admitted in NICU and the results of this study can be used to direct policy maker and programme creation related to support the mothers in nurturing their infant in NICU, as well as to improve the health and quality of life of mothers, infant and their family members.

3.2 LITERATURE REVIEW

3.2.1 INITIAL PSYCHOLOGICAL RESPONSE TOWARDS NICU

3.2.1.1 STRESSFUL EXPERIENCES AND RISK OF DEPRESSION

The birth of a sick infant and subsequent admission for specialised neonatal care is an acute emotional crisis and creates a stressful situation for parents. All of them described their early experiences of motherhood as highly traumatic and distressing (Alkozei et al., 2014). Studies had shown that mothers described their early experiences as the world suddenly turned ‘up-side-down’ or rollercoaster of emotions (Arnold et al., 2013, Malakouti et al., 2013). Mothers’ major stressful factors were the appearance of the baby in the NICU and the long separation (Arnold et al., 2013; Malakouti et al., 2013).

Their dreams of having a cute healthy baby were crushed the moment they first saw their baby (Whittingham et al., 2014, Arnold et al., 2013). Most of the parents were unable to accept the physical appearance of the baby. They were shocked to see their tiny babies with all the medical equipment attached to him. They were afraid to hold their baby, unsure whether it is safe to touch them or allowed to pick them up as their baby look much sicker with all the tubes (Swift and Scholten, 2010). Most of them found it very difficult to focus on their baby when there were so much things going on around them. It was hard for them to feel a connection with their babies as they could barely see their babies’ face with all the medical equipment (Arnold et al., 2013).

Mothers felt sad, angry, ambivalence, guilt and hopeless because they can only watch their baby behind the glass without being able to hold their baby. They are

blaming themselves for giving birth to an unhealthy infant (Heidari et al., 2012). The lack of interaction between mother and infant together with the acute emotional crisis has major contribution to maternal stress. According to one mother's words, "it was quite traumatic that you cannot cuddle them and it was very stressful to walk out and leave them in the nursery" (Swift & Scholten, 2010). Mother with infants admitted to NICU are at higher risk of developing depression (Malakouti et al., 2013) and post-partum depression (PPD) is the most common complication (Rogers et al., 2013). Based on Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), PPD defined as a major depressive episode which can occur during peripartum if onset of mood symptoms occurred during pregnancy or within 4 weeks following delivery (American Psychiatric Association, 2013).

3.2.1.2 FEAR EMOTION

Studies have shown that the sense of fear occurred when the mothers first visited their babies in the NICU. They were frightened at the very moment they entered the NICU. The strange environment with the entire loud machine surrounding their babies creating a frightful environment (Gavey, 2007). The medical equipment attached to their babies causing further physical separation from the mother (Lee et al., 2009b). Malakouti (2013) has identified three fear factors in a mother with infant admitted to NICU which were fear of being separated from the infant, fear of the infant's death and fear of adding problems to the infant. The mothers indicated that they were so afraid of disturbing the machine that it took them a long time to participate in nursing the babies (Lee et al., 2009b). The word that always come to the mothers' mind was 'is the baby going to survive or not'(Gonçalves Vieira Fernandes et al., 2015).

3.2.1.3 EXPRESSION OF ANXIETY AND UNCERTAINTY

Anxiety resulted when an individual's personal security or security of beloved person was threatened involving life and death situations. Anxiety are also the experiences of vulnerable people facing uncertainty in an ever changing situation (Lazarus, 2006). Mothers with infant in NICU were aware that their infant's condition could change at any time. When their infant's condition deteriorates, mothers re-experienced the sudden changes in their emotion from chronic anxiety to rising feelings of fear (Watson, 2011).

Uncertainty will further lead to chronic anxiety (Watson, 2011). Parents wanted to know more about their infant's progress, lack of information from the health care providers made them feel overwhelmed with uncertainties, helpless and confused. Uncertainty is a source of stress and parents were feeling restless without knowing their infant's condition (Heidari et al., 2012).

3.2.1.4 FEELING POWERLESS

Based on mothers' experiences, neither having knowledge nor skills in nursing their sick infant in NICU, parents were happy with the support received from the neonatal nurses. However, some of the neonatal nurses tend to use their professional knowledge and skills ignoring the parents from interacting, physically and psychologically with their sick infants, reinforcing the maternal powerlessness (Watson, 2011). Some mothers viewed nurses as inappropriately 'owning' their baby. They described it as if the baby was not theirs and they're just visiting. Some described as an awkward feeling as they were the mother but they did not know whether they

can hold the baby or not. Such feeling has interfered the bonding and create feelings of maternal incompetence which worsened the feeling of powerlessness thus reducing further their status as parents (Swift & Scholten, 2010; Watson, 2011).

3.2.2 BARRIERS TO PARENTING

3.2.2.1 NICU FACTORS

NICU is described as a ‘little hidden world, full of poorly babies’ (Arnold et al., 2013). Studies have shown that mothers were shocked to see the life support equipment for the first time. The technological environment creates a frightening atmosphere and with the medical equipment attached to the infants causing further barriers to the mother. They were so afraid of the equipment thus delaying them from establishing positive mother-infant interactions. Mothers described it as appalling to see their babies with so many lines and tube attached to them with the entire machines sending out loud beeps and they felt as if they want to run out of it (Lee et al., 2009). Studies showed that NICU hospitalization has negative influence in maternal role as the mother feels unable to care, support and alleviate pain for her infant (Shaw et al., 2006).

The highly specialized NICU environment is prohibiting the mother to perform her role and fulfilling the emotional needs of parents. This has negatively impact maternal-infant bonding with long term influence on infant development (Keller et al., 2016, Young, 2013). Another barrier associated with the NICU is the lack of information or communication from the health care team. Lack of time and lots of work burden due to inadequate manpower and skilful nurses in communication together with communication nature of the physician-nurse were the main barrier in

developing good relationship with the parents (Russell et al., 2014). Mothers were dependent on the neonatal nurses to keep them updated regarding their infant's progress and information on what they could and could not do with their infants (Lee et al., 2009).

In some studies, mothers explained that they were having bad experiences with NICU staffs. They received no emotional and psychological support although they have expressed their feeling. They were waiting for the health care teams to discuss their infant's condition and to provide reassurance (Abuidhail et al., 2017). Some neonatal nurses appeared to use their control to limit parent involvement in their babies' care. Excluding behaviours by the neonatal nurses will further delay the development of mother-infant attachment (Watson, 2011).

3.2.2.2 MATERNAL FACTORS

For mothers with no prior experience of nursing an infant in NICU, one of the greatest challenges was a gap in knowledge. Most of the mothers were afraid to handle their infants because they did not know what to do and how to nurse their tiny, ill baby (Lee et al., 2009). Parents with infants admitted to NICU are incapable of listening to the explanation, caring for their infant and recognizing the importance of attending their own health (Heidari et al., 2017). Mothers' emotional crises are strong at the beginning and over time mothers realized the severity of the infant's disease needs for specialized care. Thus it is a challenge for all mothers to learn all the required skills in order to perform her maternal role (Lilo et al., 2016). Another barrier to nursing an infant in NICU is the poor maternal health. A high risk pregnancy and/or caesarean

section has delayed some of the mother's first contact with their infants for many hours or even several days after the delivery (Lee et al., 2009).

3.2.2.3 INFANT FACTORS

Studies showed the expectation of mothers with sick infant admitted to NICU did not match with mothers of full term, healthy infants. The moment they saw their infants, many described their infant's physical appearance and behaviours are stressful to observe and they were worried it would influence the development of mother-infant relationship. They were startled by their infant's size and form, and they were hesitant to touch them (Lee et al., 2009). The early hospitalisation and long separation from the mothers made them difficult to understand their infants' behaviour. Some of the mothers expressed that they did not understand their infants' behaviour thus they did not know how to interact with them. Even when they were allowed to have contact with their infant, some mothers hesitated to nurse their fragile infants because they were afraid of causing more harm to the baby (Lee et al., 2009).

3.2.3 MOTHERS' COPING STRATEGIES

3.2.3.1 SELF- EMPOWERMENT

Being a parent of an infant admitted to NICU is something different from what the parents knew and experienced (Abuidhail et al., 2017). Mothers expressed their feeling of inclusion or needs to participate in caring for their infant when they had an open conversation with NICU staff (Heydarpour et al., 2017). Resiliency developed once the parents change their role from outsiders to engaged parents. The mothers moved from passive to active parenting, and they moved from silence to advocacy. Researchers explained that 'as the mothers become engaged, they were ready for

parenting, with a need of family- focused care' (Phuma-Ngaiyaye and Kalembo, 2016). All studies have emphasized the importance of parents' participation in the infants' care. The more they involved the more they become confidence, decreased their level of stress and strengthened their self-esteem in parenting (Heinemann et al., 2013).

According to a mother's word, knowledge gives a feeling of security. The initial uncertainty decreased with increased participation giving the parents a sense of control of the situation and later begun to make some demands in caring the infants (Heinemann et al., 2013). Mother-infant bonding can be built by creating a sense of knowing and creating a sense of doing. Creating a sense of knowing meant that the mother needs to learn as much as they could to understand their infant's condition, the monitoring equipment and treatment given to their infant. It also included understanding their infant's unique behaviour in order to help them get closer emotionally with their hospitalised infants (Lee et al., 2009).

Creating mother's sense of doing will further help to develop emotional connection with their infants. Mothers, who provided their breast milk, participate in nursing their infants made them feel useful as they were contributing to their infant's recovery and these actions helped them to feel connected emotionally with their infants (Lee et al., 2009).