Maternal Distress & Neonatal Intensive Care Unit Stays

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Abstract

Background: Many mental disturbances can be experienced as a result of the peripartum experience, including maternal distress. Experiences in the Neonatal Intensive Care Unit (NICU) can worsen and negatively contribute to the development of maternal distress.

Purpose: To investigate the following research questions: How does having an infant requiring a NICU stay affect maternal distress during and after NICU discharge? How can maternal distress can be decreased?

Methods: A literature review was performed using databases relevant to the research field and articles were included based on their relevancy to the research question.

Results: Maternal distress consists of a combination of depressive, anxiety and trauma/PTSD related symptoms, and affects NICU mothers at a higher rate than mothers of well-infants not requiring a NICU stay. There are many contributing factors to the development and severity of maternal distress, disproportionally affecting mothers with an infant in the NICU. Multiple validated screening tools, paired with support from the healthcare staff and increased parental involvement in care can aid in improving maternal distress.

Conclusions: Maternal distress is an issue that affects NICU mothers at a high rate. Recognition of risks, screening, and support from the healthcare team can improve maternal distress in addition to maternal support systems and maternal involvement in infant care.

Introduction

Women may be at an increased risk for mental disturbances due to reproductive changes, such as pregnancy (APA, 2013). Maternal distress is a mental disturbance that mothers may experience as a result of their peripartum experience (Staver et al., 2019). Many risk factors contribute to the development of maternal distress, and the experience of distress can result in

lasting effects on both the mother and her infant. Maternal distress can be worsened due to things like infant hospitalization (Sanders & Hall, 2018). When infants are hospitalized after birth, they may be admitted to the Neonatal Intensive Care Unit (NICU).

The NICU is a hospital unit that cares for sick infants in the first hours and days of life (Knispel, 2020). According to the National Center for Vital Statistics, NICU admissions in the United States (U.S.) have averaged 9.4% of live births annually during the last six reported quarters (Driscoll et al., 2021). Common reasons for a NICU admission include prematurity (born before 37 weeks' gestation), heart problems, birth defects, breathing issues, and irregularities and infections (Knispel, 2020). Having a sick infant requiring a NICU stay poses a stress to parents, and it is important to evaluate the risks and issues that may be associated with experiencing a NICU stay.

The purpose of this literature review is to evaluate how a NICU experience affects maternal distress. Literature regarding the NICU acknowledges and describes maternal distress and its effects. In order to understand maternal distress, improve maternal distress and promote early intervention it is important to evaluate and understand the literature on the topic.

Methods

To increase what is known about maternal distress in the NICU, a research question was developed using the Patient population, Intervention/issue, Comparison intervention, Outcomes and Timing (PICOT) format as outlined in Brown (2018). Using the research questions: 'How does having an infant requiring a NICU stay affect maternal distress during and after NICU discharge? How can maternal distress be decreased?', a literature review was performed. articles were searched in March 2022 through CINAHL, PubMed Medline, PsychINFO, PsychArticle databases and Google Scholar. Key words for searching included "maternal distress," "maternal

mental health," and "NICU." To further the focus of the literature review, only articles published within the last 5 years (2017-2022) and those discussed results from the U.S. were included. Exceptions to the 5-year date limit included most recent standards of best practices, reference to definitions from most up-to-date texts, and relevant evaluation tools published before the date limit. A University of Wyoming librarian, Mr. David Brown, was consulted for assistance in identifying and accessing reliable and credible sources relevant to the research question. Evidence was researched and included if quality information, related to the research question, was included in the articles. Articles were excluded if they were found to have a lack of evidence relevant to the research question or were not directly related to the research question. Articles were read and key points were included in a synthesis matrix to reveal themes relevant to the research question.

Results

The results of this literature review are presented according to the aspects of maternal distress found important to the research question, including definitions and characteristics, prevalence and severity, impact, contributing factors, and solutions.

Understanding Maternal Distress

The definition of maternal distress in literature is broad and includes many different characteristics and symptoms; however, it is not recognized as a mental disorder in texts like the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5). Maternal distress is defined as any combination of depressive, anxiety, trauma, and/or post-traumatic stress disorder (PTSD) symptoms, with symptoms occurring on a spectrum and presenting differently in individual mothers (Staver et al., 2019). Depressive related symptoms include sadness, lack of interest, low mood, anhedonia, and low self-esteem. Anxiety related symptoms include feeling

overwhelmed, worry, apprehension, nervousness, and hypervigilance. Post-traumatic stress related symptoms include feeling of terror, fear of losing infant, fear for infant health, intrusive thoughts (Staver et al., 2019), hyperarousal, flashbacks to NICU admission and avoidance of contact with the NICU (Roque et al., 2017). Additional symptoms include but are not limited to suicidal thoughts, avoidance, helplessness, isolation, insomnia, ill-temper, out of control behaviors, feelings of uncertainty or guilt, blaming, frustration (Staver et al., 2019), unexpected or traumatic emotions related to pregnancy and birth, shock, and jealousy towards parents with healthier babies (Hall et al., 2015).

Maternal Distress in the NICU

To be characterized as a mother experiencing maternal distress related to a NICU stay, the mother must exhibit the following antecedents: the mother must have an infant in the NICU and must perceive disruption in her ability to transition to the role of mother due to her infant's illness (Staver et al., 2019). Parents with infants in the NICU are at a higher risk for adverse mental health outcomes (Malin et al., 2014), and experience maternal distress at a higher rate than mothers who do not experience having an infant in the NICU (Sanders & Hall, 2013). There are two phases that mothers with maternal distress related to a NICU stay typically experience; first experiencing trauma characterized by loss, stress and anxiety, and second making meaning of the trauma, adapting, and forming an identity as a "NICU mom" (Staver et al., 2015).

Prevalence

Many studies have revealed statistics related to the rate at which maternal distressed is experienced in mothers of infants in the NICU. Beck and Woynar (2017) found 18% of NICU mothers in the U.S. experience elevated PTSD symptomology. Furthermore, Schecter et al. (2020) found that 1/5 mothers continue to experience moderate to severe levels of PTSD more

than a year removed from the NICU, and 1/3 mothers rate their NICU experience as “the most traumatic experience they have ever had.” Gerstein et al. (2019) found that 21% of mothers screened at discharge showed clinically significant symptoms of postpartum depression (PPD).

Between 12-78% of mothers screen positive for more than one aspect of distress in the NICU, with 14% of mothers who had significant depressive symptoms also having moderate to severe anxiety and 40% also having high state anxiety (Staver et al., 2020). Mothers who showed symptoms of depression also had higher NICU stress and experienced PTSD at a higher rate. Longevity of maternal distress was a notable finding in Salome et al.’s (2022) study, finding that 80% of mothers screened positive for depression, 65% screened positive for anxiety and 55% screened positive for PTSD a year removed from the NICU.

Contributing Factors

Maternal Risk Factors

The severity of experienced maternal distress varies between individuals and is dependent on the mother’s existing mental health and coping, and the infant’s health status (Staver et al., 2019). A history of mental health disorders (McGowan et al., 2017), past traumatic experiences and experiencing many life stressors increases the risk that a mother will experience maternal distress (Staver wet al., 2020). Specifically, past experience of fetal loss (Staver et al., 2019) and cesarian births are associated with higher maternal distress (Staver et al., 2020). Maternal personality traits, her perinatal psychological functioning and her family history of psychological disorders affect the reaction she will have to her birth and the events following such as a NICU stay (Staver et al., 2019). Dysfunctional coping right after childbirth is related to increased likelihood to experience clinically significant aspects of maternal distress (Sharp et al.,

2021). Social factors include being unmarried, a low family income, younger maternal age (Roque et al. 2017), being less educated and being a single parent (Gerstein et al., 2019).

NICU Specific Stressors

Hospitalization in the NICU is a disruptive, potentially traumatic event for the infant and their parents (Erdei et al., 2021). Specific stressors related to the NICU can contribute to maternal distress. These stressors include the sight of foreign tubes such as intravenous lines and feeding tubes connected to their infant (Schecter et al., 2020), and seeing their infant dependent on machines (Staver et al., 2019). In addition, witnessing cardiopulmonary resuscitation (CPR), and painful and/or invasive procedures (Sanders & Hall, 2018), or seeing their infant upset or in pain can contribute to maternal distress. (Staver et al., 2019). Because of these sights, mothers have described the sight of their infant as traumatic and shocking (Beck & Woynar, 2017).

The medical environment itself presents stressors such as needing to process and interpret alienating medical jargon (Sanders & Hall, 2018) and experiencing a lack of privacy in the busy NICU environment (Sharp et al., 2021). Infant early separation from mother, being unable to care for the infant as they would if they were solely responsible for the infant's care, lack of alone time and inability to share the infant with family were also identified as stressors (Staver et al., 2019). Mothers who feel their role as a parent is not recognized or respected by medical staff experience more maternal distress (Sanders & Hall, 2018). A longer length of stay in the NICU increases the likelihood a mother experiences maternal distress (Hodge & Shaw, 2021), and increases severity (Staver et al., 2019). More serious infant diagnoses (Staver et al., 2020) and parent perception of worse infant diagnoses (Malin et al., 2019) increases maternal distress.

Relationship with the Healthcare Team

Due to the continuous care nurses give to NICU infants and their role as a caregiver in the NICU, mothers often feel as though they are told when and how to care for their infant, which causes issues of control and ownership and can worsen maternal distress (Beck & Woynar, 2017). Many NICU mothers describe feeling that providers and nurses cannot properly relate to or understand the parent's emotional struggles due to the disconnecting feeling of not being their infant's primary care giver (Schecter et al., 2020). Additionally, frequent changes in nursing staff and receiving advice that is inconsistent or conflicting negatively affects maternal distress (Beck & Woynar, 2017). A mother's perception of the support she is receiving from her nursing staff directly correlates to her experience of maternal distress (Hall et al., 2015).

Result of Maternal Distress

Because the first year of life is the most sensitive period for the mother-infant relationship (Gerstien et al., 2019) it is important to consider the impacts maternal distress may have on the mother and infant. The mother-infant relationship is affected by maternal distress due to experiencing a difficulty forming bonds and emotionally relating to the infant (Staver et al., 2019). Psychological distress interferes with the normal mother-infant relationship building that normally occurs after birth (Erdei et al., 2021) and can lead to intergenerational trauma experiences (Schecter et al., 2020).

Parenting styles associated with maternal distress include more controlling, less sensitive, and compensatory style parenting (Staver et al., 2019). Greater intrusiveness, less sensitivity and greater negativity are also seen because of maternal distress (Gerstein et al., 2019). Mothers who experience maternal distress can have difficulty being child-centered and can show impatience and more immediate responses to frustrations.

Physiologically, maternal mental health affects infant neurodevelopment and is an important predictor of infants' future sleep and eating problems (Staver et al., 2019). Infants with mothers who experience maternal distress can experience additional adverse infant development issues, including things like Vulnerable Child Syndrome (Hodge & Shaw, 2021). Maternal quality of life can be dramatically decreased due to poor sleep quality, low levels of well-being, extreme fatigue, and sleep deprivation (Staver et al., 2019). Additionally, mothers can experience negative alterations in neuroendocrine and immune functioning because of their experiences with maternal distress (Staver et al., 2019).

Improving Maternal Distress

Evaluation & Screening

Early identification of mental health problems through screening methods provides the healthcare team with an opportunity to implement early interventions (Moreyra et al., 2021). Screening also proves to be helpful in adequately capture symptoms that may be less obvious to the members of the medical team. The Edinburgh Postnatal Depression Scale (EDPS) is a 10-item questionnaire scored on a 0-3 scale according to a specified key regarding depressive symptoms (Cox & Sagovsky, 1987). A score of 10 or greater indicates possible depression and special attention should always be paid to item 10 regarding suicidal thoughts. The Perinatal Anxiety Screening Scale (PASS) is a 31-item questionnaire rated on a 0-3 scale (not at all, sometimes, often, almost always) regarding perinatal anxiety symptoms (Somerville et al., 2014). The clinically significant cutoff for this scale is 26 or higher. The Modified Perinatal Post-Traumatic Stress Disorder Questionnaire (PPQ-II) is a 13-item questionnaire rated on a 0-4 scale (not at all, once or twice, sometimes, often, but less than 1 month, often, for more than a month) regarding PTSD symptoms (Callahan et al., 2006). A score of 19 or higher identifies an at-risk

mother. The Parental Stressor Scale: Neonatal Intensive Care Unit (PSS:NICU) is a 26-item questionnaire rated on a N/A-5 scale (not applicable, not at all stressful, a little stressful, moderately stressful, very stressful, extremely stressful) regarding stressors related to the NICU specifically (Miles et al., 1993). There is no tool that captures the concept of maternal distress entirety (Staver et al., 2019); and this is not a comprehensive list of evaluation tools relevant to the experiences of maternal distress but were chosen to be included in the results section by the author due to their relation to the key aspects of maternal distress found in the literature.

In order to make screening effective, screening should be done for all NICU parents at set intervals during the postpartum period (Moreyra et al., 2021). It is suggested that screening should be started in the antepartum period, even if the infant is expected to have a stay in the NICU or not (Hyann & Hall, 2015). Once in the NICU, evaluation should be done within the first week of admission and again within 48 hours of discharge (Hynan et al., 2015). Since mothers may experience acute emotions as they prepare to go home at discharge, they should also be evaluated at least 1-2 months after discharge (Gerstein et al., 2019) at follow up appointments or home visits (Hynan et al., 2015). Screening is best performed by a member of the healthcare team who has developed a strong working relationship with the parent (Hynan et al., 2015), and when it is individualized to meet each family's unique needs (Erdei et al., 2021).

Approach by the Healthcare Team

Supporting mothers by educating them on common psychological effects of NICU experiences and providing a holistic family-centered approach to healthcare can yield the best outcomes regarding maternal distress (Schecter et al., 2022). Members of the healthcare team should recognize parents as co-regulators of their infant (Sanders & Hall, 2018), incorporate parents' views into their infant's care (Hall et al., 2015), and boost the participation of mothers in

joining the NICU staff to care for their infant (Salome et al., 2022). Empowering parents to grow in their role as the primary caregiver and most important person in their child's life reduces the distress experienced by mothers (Erdei et al., 2021).

Using sound principles of communication can lessen distress by acknowledging concern, fully sharing medical information, and empathetically delivering bad news (Hynan & Hall, 2015). This communication extends to engaging in social talk at the bedside, explaining all procedures before they take place and keeping communication lines open (Sanders & Hall, 2018). Additional ways to support parents include staff introducing themselves, calling the infant by their name, speaking in a low voice and in lay persons language, acknowledging the parental role and not labeling parents as "difficult" (Hall et al., 2015).

Approach by the NICU Parent

Mothers should see their infant within 3 hours of delivery, should participate in skin-to-skin contact (Sanders & Hall, 2018), and visit their infant frequently to promote mother-infant connectedness, enhance parental confidence and reduce maternal distress (Staver et al., 2020). Mothers should also interact as an integral member of the NICU team (Hall et al., 2015), should be fully involved in their infant's care and actively participate in care delivery (Schecter et al., 2020). Communicating with staff (Schecter et al., 2020) and recognizing oneself as the expert of their infant helps to empower parents as the caregiver and develop skills related to management of their infant's pain and stress (Sanders & Hall, 2018). Furthermore, mother-to-mother relationships, positive relationships with infant's dad and positive relationships with family are associated with better outcomes and less maternal distress (Beck and Woynar, 2017). Bonding with other previous and current NICU parents (Sanders & Hall, 2018) and joining peer support

groups can further aid in empowering and supporting NICU mothers experiencing maternal distress (Erdei et al., 2017).

Discussion

The DSM-5 does not mention mental health disorders as a result of the peripartum experience beyond that of depressive disorders with peripartum-onset (APA, 2013), leaving the other aspects of maternal distress unaccounted for. The lack of clear definition of maternal distress results in the lack of diagnosis, screening and intervention related to maternal distress, and as a result many mothers experiencing this phenomenon likely go unnoticed by medical professionals.

The peripartum experience can be stressful and traumatic to all mothers, even if the result is a healthy infant. The maternal risk factors mentioned apply to all, and some unmodifiable risk factors serve as a standing risk for some regardless of infant health status. Maternal risk factors should be recognized and acknowledged by the healthcare team in the antepartum period, even if their infant is not expected to have a NICU stay, in attempts to reduce the occurrence and the effects of maternal distress. Mothers who experience maternal distress can struggle to form bonds with their infant in the sensitive, first year of life and the results of maternal distress are not limited to NICU parents.

In efforts to avoid the damaging parenting styles and possible intergenerational trauma as a result of maternal distress, mothers of healthy infants should be encouraged to frequently hold and if possible, to be solely responsible for deciding and providing care for their infant. Screening and evaluation beginning in the antepartum period, regardless of anticipated or actual NICU admission, is a validated way to notice mental health disruptions and ques the healthcare team that intervention may be needed. The EDPS, PASS and PPQ-II are validated tools for all

peripartum mothers and should be used as often as feasible during the postpartum stay and at follow up appointments. Furthermore, support and education on the psychological effects of the peripartum period should be given to all mothers. As a standard, positive relationships with the healthcare team, sound communication and encouraging mothers to be empowered in their role as a parent should be extended to all.

Although maternal distress can occur in all mothers, mothers of an infant in the NICU experience maternal distress at a higher rate (Sanders & Hall, 2013), making NICU mothers a very at-risk population that may go unnoticed. Staver et al. (2015) recognizes the second phase of NICU-related maternal distress as making meaning of the trauma and forming an identity as a "NICU mom;" however, this phase can be a difficult process for mothers without formal support. When distress is widely unrecognized, formal support may not be offered or even available for this population. Despite the lack of formal recognition, the statistics on maternal distress in NICU mothers reveal that this phenomenon is very common and experienced at a high rate.

In addition to the risk factors and stressors all mothers are exposed to, the stressors that NICU mothers experience are plentiful. The stressors of the intensive care environment, consistent and longer exposure to the medical environment, and the difficult sights of her newborn are all unique to this population of NICU mothers. Because these stressors are only experienced by this select group of mothers, the feelings NICU mothers experience can be isolating and further damaging to mental health.

In the NICU, the healthcare team determines how infants are cared for according to medical needs, which takes the maternal role of deciding care for the infant away from mothers of infants in the NICU. Additionally, the lack of alone time and inability to hold and care for their infant impairs the mother-infant relationship in ways that mothers with healthy infants do

not have to experience. NICU infants are more vulnerable and sensitive to their surroundings due to their medical conditions, making them more susceptible to the lasting results of maternal distress. NICU mothers are at a higher risk population to the lasting effects of maternal distress due to this susceptibility, paired with the increased risk to experiencing maternal distress.

Evaluation and screening is especially important for NICU moms who are more susceptible to the stressors and reactions after birth due to their infants health status. Medical professionals have more opportunity to evaluate and screen NICU moms due to their continued involvement in the medical environment in the days or months following their birth experience. In addition to the validated tools for all peripartum moms, the PSS:NICU can serve as a very beneficial tool to understanding the effects of the NICU specifically to a mother's distress. As with all mothers, a healthy, working relationship and sound communication should be implemented with this population. Additionally, encouraging mothers to make decisions about their infant's care when possible and educating on how to hold and bond with their NICU infant can be greatly beneficial to reducing maternal distress experienced.

Limitations

There are several limitations to this literature review. Although efforts were made to develop a comprehensive literature review, there is an inadvertent bias to the articles chosen for inclusion. There is vast literature available on the topic of maternal distress, limiting included sources to the last five years might have left out valuable data and information. This study focused primarily on maternal distress in NICU mothers but did not focus on maternal distress experienced by all mothers or distress experienced by fathers. A more extensive review would be beneficial to fully understand distress as a result of the peripartum period and NICU stays.

Conclusions

Maternal distress is an issue seen in the peripartum period, and at an increased rate in the NICU population. Experienced distress directly impacts maternal and infant well-being and can show its effects throughout the entire parenting experience. Recognition of risk factors, reduction of stressors and promoting healthy relationships with the healthcare team can be beneficial to maternal distress. Frequent screening and use of validated screening tools serve as methods to noticing maternal distress so early interventions can be made.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Beck, C. & Woynar, J. (2017). Posttraumatic stress in mothers while their preterm infants are in the newborn intensive care unit. *Advances in Nursing Science, 40(4),* 337-355. https://doi.org/10.1097/ANS.0000000000000176

Brelsford, G & Doheny, K. (2022). Parents' spiritual struggles and stress: associations with mental health and cognitive well-being following a neonatal intensive care unit experience. *American Psychological Association: Psychology of Religion and Spirituality, 14(1),* 119-127. https://doi.org/10.1037/rel0000381

Brown, S. (2018). *Evidence-Based Nursing: The Research-Practice Connection.* (4th ed). Jones & Bartlett Learning.

Callahan, JL., Borja, SE., Hynan, MT. (2006). Modification of the Perinatal PTSD Questionnaire to enhance clinical utility. *Journal of Perinatology, (26),* 533-539. https://doi.org/10.1038/sj.jp.7211562

Cox, JL., Holden, JM, Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry 150,* 782-786.

Driscoll, AK., Osterman, MJK., Hamilton, BE., Valenzuela, C., Martin, JA. (2021). *Quarterly provisional estimates for selected birth indicators: NICU Admissions.* National Center for Vital Statistics. National Vital Statistics System, Vital Statistics Rapid Release Program. https://www.cdc.gov/nchs/nvss/vsrr/natality-dashboard.htm#

Erdei, C., Liu, C., Machie, M., Church, P., Heyne, R. (2021). Parental mental health and neurodevelopment outcomes of children hospitalized in the neonatal intensive care unit. *Early Human Development, 154.* https://doi.org/10.1016/j.earlhumdev.2020.105278

Gerstein, E., Njoroge, W., Paul, R., Smyser, C., Rogers, C. (2019). Maternal depression and stress in the neonatal intensive care unit: associations with mother-child interactions at age 5 years. *Journal of the American Academy of Child & Adolescent Psychiatry, 58(3),* 350-358. https://doi.org/10.1016/j.jaac.2018.08.016

Hall, SL., Cross, J., Selix, NW., Patterson, C., Segre, L., Chuffo-Siewert, R. Geller, PA., Martin, ML. (2015). Recommendations for enhancing psychosocial support of NICU parents through staff education and support. *Journal of Perinatology, 35,* S29-S36. https://doi.org/10.1038/jp.2015.147

Hodge, M. & Shaw, R. (2021). Best practice guidelines on parental mental health in the neonatal intensive care unit: The importance and impact on infant health and development outcomes. *Early Human Development, 154*. https://doi.org/10.1016/j.earlhumdev.2020.105277

Hynan, MT & Hall SL. (2015). Psychosocial program standards for NICU parents. *Journal of Perinatology, 35,* S1-S4. https://doi.org/10.1038/jp.2015.141

Hynan, MT., Steinberg, Z., Baker, L., Cicco, R., Geller, PA., Lassen, S., Milford, C., Mounts, KO., Patterson, C., Saxton, S., Segre, L., Stuebe, A. (2015). Recommendations for mental health professionals in the NICU. *Journal of Perinatology, 35,* S14-S18. https://doi.org/10.1038/jp.2015.144

Knispel, S. (2020). *What parents should know about NICU care.* Parenting. https://www.parenting.com/baby/nicu-care/

Malin, K., Johnson, T., McAndrew, S., Westerdahl, J., Leuthner, J., Lagatta, J. (2020). Infant illness severity and perinatal post-traumatic stress disorder after discharge from the neonatal intensive care unit. *Early Human Development, 140.* https://doi.org/10.1016/j.earlhumdev.2019.104930

McGowan, E., Du, N., Hawes, K., Tucker, R., O'Donnell, M., Vohr, B. (2017). Maternal mental health and neonatal intensive care unit discharge readiness in mothers of preterm infants. *The Journal of Pediatrics, 184*, 68-74. https://doi.org/10.1016/j.jpeds.2017.01.052

Miles, M., Funk, S., Carlson, J. (1993). Parental Stressor Scale: neonatal intensive care unit. *Nurse Res., 42(3)*, 148-152.

Moreyra, A., Dowtin, L., Ocampo, M., Perez, E., Borkovi, T., Wharton, E., Simon, S. Armer, E., Shaw, R. (2020). Implementing a standardized screening protocol for parental depression, anxiety, and PTSD symptoms in the neonatal intensive care unit. *Early Human Development, 154*. https://doi.org/10.1016/j.earlhumdev.2020.105279

National Perinatal Association. (2021). *Guidelines and Recommendations.* https://www.nationalperinatal.org/interdisciplinary-guidelines

Roque, A., Lasiuk, G., Radunz, V., Hegadoren, K. (2017). Scoping review of the mental health of parents of infants in the NICU. *JOGNN, 46(4)*. https://doi.org/10.1016/j.jogn.2017.02.005

Salome, S., Mansi, G., Lambiase, C., Barone, M., Piro, V., Pesce, M., Sarnelli, G., Raimondi, F., Capasso, L. (2022). Impact of psychological distress and psychological wellbeing on posttraumatic symptoms in parents of preterm infants after NICU discharge. *Italian Journal of Pediatrics, 48(13).* https://doi.org/10.1186/s13052-022-01202-z

Sanders, MR & Hall, SL. (2018). Trauma-informed care in the newborn intensive care unit: promoting safety, security and connectedness. *Journal of Perinatology, 38,* 3-10. https://doi.org/10.1038/jp.2017.124

Schecter, R., Pham, T., Hua, A., Spinazzola, R., Sonnenklar, J., Li, D., Papaioannou, H., Milanaik, R. (2020). Prevalence and longevity of PTSD symptoms among parents of NICU infants analyzed across gestational age categories. *Clinical Pediatrics, 59(2),* 163-169. https://doi.org/10.1177/0009922819892046

Sharp, M., Huber, N., Ward, LG., Dolbier, C. (2020). NICU-specific stress following traumatic childbirth and its relationship with posttraumatic stress. *The Journal of Perinatal & Neonatal Nursing, 35(1),* 57-67. https://doi.org/10.1097/JPN.0000000000000543

Somerville, S., Dedman, K., Hagan, R., Oxnam, E., Wettinger, M., Byrne, S., Coo, S., Doherty, D., Page, A.C. (2014). The Perinatal Anxiety Screening Scale: development and preliminary validation. *Archives of Women's Mental Health (17)*, 443-454. https://doi.org/10.1007/s00737-014-0425-8

Staver, M., Moore, T., Hanna, K. (2020). An integrative review of maternal distress during neonatal intensive care hospitalization. *Archives of Women's Mental Health, 24*, 217-229. https://doi.org/10.1007/s00737-020-01063-7

Staver, M., Moore,T., Hanna, K. (2019). Maternal distress in the neonatal intensive care unit: a concept analysis. *Advances in Neonatal Care, 19(5)*, 394-401. https://doi.org/10.1097/ANC.0000000000000642