



Mindfulness and Acceptance in the Neonatal Intensive Care Unit: A Trauma-Informed Approach

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INTRODUCTION

Preterm labor or other medical conditions resulting in Neonatal Intensive Care Unit (NICU) admission is widely regarded as unanticipated, often sudden, experience that may result in significant distress for parents and their infants. In the United States, approximately 10 to 15% of infants born annually are treated in a NICU.¹ Admission rates are steadily increasing among all ethnic and racial groups,² with disproportionately higher rates among Black or African-American mothers or mothers with advanced maternal age³.

The NICU experience can be a deeply traumatic and shocking experience for mothers, who may have envisioned a different outcome. It creates an immense shift in environment and expectations while harboring complex emotions and challenges. As a result, mothers are at higher risk of developing psychiatric symptoms, including posttraumatic stress disorder⁴, particularly if mothers have a history of adverse childhood experiences (ACEs), minimal support system, or other life stressors that contribute to toxic levels of stress when compounded with the NICU experience⁵. Birth trauma in the context of the NICU may lead to a heightened stress response, decreasing one's ability to cope with those stressors. This experience may have long-lasting effects for both parents and infants, necessitating a better understanding of interventions that can be offered during NICU admission and beyond to address trauma responses from both a physical and psychological perspective.

We believe that the positive effects of mindfulness and acceptance-based interventions have tremendous potential to alleviate stress and anxiety and improve safety, connectedness, and bonding with lasting effects beyond the NICU.

MINDFULNESS & ACCEPTANCE IN THE NICU

Mindfulness is a practice rooted in Buddhist traditions that cultivates awareness, acceptance, curiosity, openness, and a non-judgmental reorientation of attention toward the present moment. This makes mindfulness a particularly useful practice for mental or emotional states in which attention may be excessively fixated on the past or future, such as with stress, anxiety, or depression, as we see in the context of the NICU. Reflexive responses to stressful experiences may be avoidant or maladaptive in nature, reinforcing or maintaining a variety of emotional disorders. Mindfulness can teach people to respond differently to stressors, allowing a shift from responding reflexively to reflectively. Mindfulness additionally incorporates

mind-body techniques, such as meditation or mindful deep breathing, which have been shown to regulate "fight-or-flight" sympathetic and "rest-and-digest" parasympathetic responses and, in doing so, alleviate bodily symptoms felt during distress.⁶

The current body of research evaluating mindfulness or acceptance-based interventions specifically in the NICU is limited, however, a variety of studies have found that mindfulness has stress-reduction potential in mothers. One study utilized audio and video mindfulness instruction and demonstrated reduction in stress and improvement in positive coping strategies which included self-care and interpersonal relationships.⁷ Another study explored the effects of mindfulness on maternal stress and maternal-infant bonding, and its implications beyond the NICU, finding that increased mindfulness was significantly connected to lower scores of stress and improved bonding between mothers and their babies. Resultantly, mothers were more relaxed and underwent less stress. This can be attributed to an important aspect of mindfulness that allows one to view the self or a situation objectively, improving the ability for one to communicate and be in the present moment. Mindfulness allowed these mothers to distance themselves from reflexively negative thoughts, allowing improved bonding with their infant over time.⁸

Interestingly, mindfulness can also be combined with other interventions. A pilot study applied a mindfulness intervention to Kangaroo Care, a practice in which a baby is positioned skin-to-skin on their parent's chest for certain periods of time.⁹ Kangaroo Care alone has been shown to decrease stress in both the parent and their infant as well as improve autonomic function, attachment behavior, and even enhance the infant's cognitive development.¹⁰ When a mindfulness intervention was applied, the study showed significant reductions in distressing symptoms in mothers of babies born prematurely resulting in NICU admission.¹¹

OPPORTUNITIES FOR FURTHER RESEARCH

Currently, the majority of these studies have largely centered around mothers, with limited emphasis on fathers or co-parents.¹² Expanding research to include this population could be of tremendous value when assessing the impact of mindfulness and acceptance-based interventions across different groups in the context of the NICU. Additionally, further research is needed to assess the feasibility of delivery of various interventions. Certain modes of delivery may be challenging in NICU settings, particularly if they require trained clinicians, thus limiting availability. However, among the interventions, video and audio instruction have shown to be feasible, flexible, and cost-effective forms of delivery, worthy of future research.¹³ Similarly, combining mindfulness techniques with largely acceptable evidence-based

NICU practices such as Kangaroo Care is of interest, given its low cost, accessibility, and effectiveness¹⁴ in its potential application in a variety of settings and socioeconomic contexts.

CONCLUSION

Mindfulness and acceptance-based interventions have the potential to significantly alleviate the distressing symptoms associated with the NICU experience in mothers. Additionally, the time that a parent spends in the NICU presents a unique opportunity for connection, engagement, screening for mental health conditions, and possibly providing trauma-informed mindfulness and acceptance-based interventions to address any potential distress. Despite the gaps in the literature, there are many opportunities for this body of research to grow.

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