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A Resource for Parents and Professionals



**Focus of
this Issue:**

It all starts with Trauma



Impacts of NICU Stay

on Infant Development and the Child-Parent Relationship

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For many parents the moment they find out that they are expecting a child is a time filled with mixed emotions including excitement, joy and mild anxiety about being a parent. Before a child is born, expectant parents form mental representations of what the child will look like, what the child will be like, and have preconceived notions of what parenting that child will be like. Expectant parents often envision the baby's arrival day and lay out a delivery plan to insure the perfect birth. Parents frequently imagine what it will be like when their little bundle of joy comes home. But what happens when a medical emergency results in an unexpected and premature delivery, and the child has to stay in the neonatal intensive care unit (NICU) for an unknown period of time?

Preterm birth is defined as an infant being born less than 37 weeks gestation. According to the March of Dimes (2014), more than a million babies are born prematurely each year in the United States. Being born early places an infant at increased risk for developing short and long-term difficulties with their physical, social, cognitive and emotional health and well-being. The experience of an unexpected or early delivery is likely traumatic for both mother and child. Having a child born prematurely also places a great deal of stress on a family and their ability to cope. This undue stress of being separated from their child due to hospitalization and having to care for a child that often has some complex medical needs can also have a significant impact on the child-parent relationship.

NICU Stay as Traumatic for Baby

A growing body of evidence has documented the potentially negative effects of being born prematurely and staying in the NICU for an extended period of time. It has been argued that the long-term impacts of being in the NICU are synonymous with behaviors seen in children who have experienced complex trauma. Although there has been little written about the potentially traumatic



effects the NICU can have on an infant, documented findings are similar to studies of older child admitted to the pediatric intensive care unit (PICU). Children admitted to the PICU may experience changes in the parent-child relationship and traumatic reactions to the various medical procedures conducted (Kazak, Kassam-Adams, Schneider, Zelivososki, Alderfer, Rourke, 2006).

When humans are faced with a situation that is threatening, or overwhelms our capacity to cope, our stress response system becomes activated. The stress response system is the body's way of protecting itself from danger or threat and is essential for survival. There are several factors about routine NICU procedures and structure that could activate the infant's stress response system and be potentially traumatic for babies. Such circumstances include: maternal separation, pain and stress associated with routine medical procedures, isolation, loss of trust, and bright lights and loud sounds (Coughlin, 2013). Repeated exposure to severe, chronic stressors such as those that occur in the NICU, results in the baby's stress response system continuously being activated. Prolonged activation of the stress response system has been shown to lead to long-term changes/alterations in brain structure and overall neurobiology of the child. These changes can result in impairments in learning, memory, and the ability to regulate emotions and behaviors (National Scientific Council on the Developing Child, 2010; 2005/2014, Shonkoff, Boyce, McElwen, 2009).

Infants born prematurely have been found to have a maladaptive stress response system that disrupts normal brain growth and development compared to babies born full-term (Haifa, McGrath, Wehbe, Clapper, 2012). The time period between birth and five years old is a critical time for growth and development of the brain.



Not only is the brain developing rapidly during this period, it is also most impressionable to adverse experiences. Prolonged activation of the stress system during this stage of development may influence the expression of genes in the brain and body. Dysregulation of the stress response system may result in children overreacting to sensory stimuli and make it difficult for them to distinguish between an actual threat and a safe situation and further exacerbate risk. (Shonkoff, Boyce, McElwen, 2009; National Scientific Council on the Developing Child, 2010; 2005/2014; Hatfield, Meyers, Messing, 2013).

Impact on Parent-Child Relationship

Children thrive and develop in the context of positive, nurturing relationships with significant caretaking adults. One of the most important and pivotal relationships is that between a parent and child. This attachment, or emotional bond, influences and lays the foundation for all future relationship that the child will have throughout his or her life. Indeed, the young infant's physical and emotional well-being is dependent upon the development of healthy attachment with parental figures and consistent caregivers. When healthy attachment is present, the child views the parent as a secure base they can use to explore their environment and draw cues about safety and danger. Attachment relationships are based on the child's need for safety, security and protection. Strong, healthy attachments are created when mutual reciprocity occurs between a baby and parent figure, and the child feels safe, secure and protected. Individuals typically think of abuse and neglect, witnessing acts of terrorism or intimate partner violence as potentially traumatic for children. While, being separated from a caregiver for a significant amount of time, such as what happens when an infant has to stay in the NICU, is often not thought of as traumatic, its potential impact on healthy attachment and development cannot be overstated.

Having a child in the NICU and thereby experiencing a prolonged separation from a child can impact the attachment relationship in several ways. Parents of a newborn do not expect to leave the hospital without their child. When a baby is born prematurely and has moderate to severe medical issues that a parent needs to tend to, the parents' hopes and dreams of the child that-could-have-been get shattered and need to be reconfigured. The idealized child versus the actualized child can be a source of major conflict and stress for the parents. When a child is born full-term, parents adapt their perception, but when a child is born prematurely, and parents often need to care for a medically fragile child, it likely impacts the parent-child pattern of behavioral and emotional interactions (Shah, Clements, Poehlmann, 2011).

Parents can be distant due to anxiety and fear that a negative outcome is imminent for their child, and may be reluctant to become emotionally involved. A mother's reluctance to become emotionally close to her child may be due to guilt that she experiences because of her perception that she may have done something to cause the early birth of her child. When infants in the NICU do not have regular access to their caregiver, opportunities for attachment can be disrupted.

Recommendations for Practice

1. NICU environments and discharge plans that support the development of attachment and the child-parent relationship are critical. Healthy, nurturing relationships with caring adults can serve as a buffer for early adverse experiences and can help support optimal stress regulation, development and overall wellbeing. (Chu & Lieberman, 2010; National Scientific Council on the Developing Child, 2005/2014). Including attachment as a goal in the medical plan can help hospitals proactively develop protocols, systems and environments that do not inadvertently undermine successful attachment. Programs that support the transition home and anticipated needs post-discharge may prevent anxiety and



- gaps in support that may threaten safe and stable relationships.
2. Premature infants are more likely to have complex medical needs, chronic health issues, delayed developmental trajectory. Raising a child with chronic, complex, or special needs may be stressful for families, increase anxiety, and undermine parent-child relationship. Programs are needed to provide education to families about expected behaviors and anticipated development of their babies. As well, these should address the social-emotional and psychological difficulties (feelings of guilt, disappointment, etc.) that parents may have as a result of caring for a child who may have complex medical needs or who they perceive as fragile. Finally, these programs may also focus on nurturing the emotional attunement between child and parent.
 3. Interventions that address stress, coping, and anxiety in caregivers, such as mindfulness groups, may aid in alleviating anxiety and lowering stress level. An infant's emotional state can mirror their parents; therefore, helping the mother regulate her emotions will have a dual benefit for the infant: improved calm and regulation, and greater opportunity to develop a healthy attachment between child and parent.
 4. Engaging in mutually reinforcing interactions, described as 'serve and return' facilitates neural activity in the brain and can increase the likelihood of adaptive development of the stress response system. (National Scientific Council on the Developing Child, 2010)
 5. Create as many opportunities for physical contact as possible. Attachment is strengthened through physical touch like kangaroo holding, baby wrapping, feeding and changing diapers.
 6. Provide appropriate anticipatory guidance and psychoeducation for parents about what to expect and normal trajectory of a NICU stay.
 7. Follow-up after the NICU should include — emotional support, help with breastfeeding, developmental path, and what to expect at home. This includes home visiting and connection to social supports, such as peer groups.
 8. Empower parents to play an active role in



decision-making. Routine updates on health status and anticipated problems as well as regular multidisciplinary meetings help forge a therapeutic alliance; this should include taking the families culture and parenting beliefs into consideration.

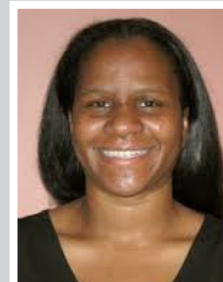
9. Provide ongoing professional development and education of all members of the healthcare team and staff, mental health, social service providers, and educators on the unique short and long-term needs of premature infants.

References

- Chu, A.T., & Lieberman, A.F. (2010). Clinical implications of traumatic stress from birth to age five. *Annual Review of Clinical Psychology*, 6, 569-494.
- Coughlin, M. 2013. *Trauma-informed care: A new paradigm for the NICU*.
- Haifa, S., McGrath, J., Wehbe, M., Clapper, J. (2012). Epigenetics and family-centered developmental care for the preterm infant. *Advances in Neonatal Care*, 12 (5S) S2-S9.
- Hatfield, A., Meyers M., Messing, T. (2013). A systematic review of the effects of repeated painful procedures in infants: Is there a potential to mitigate future pain responsivity *Journal of Nursing Education and Practice*, 3 (8) 99-112.
- Kazak, A. Kassam-Adams, N., Schneider, S., Zelivososki, N., Alderfer, M. Rourke, M.(2006). An integrative model of pediatric medical traumatic stress. *Journal of Pediatric Psychology*. 31 (4) 343-355.
- National Scientific Council on the Developing Child, (2010). *Early experiences can alter gene expression and affect long-term development: Working paper no. 10*. <http://developingchild.net>.
- National Scientific Council on the Developing Child (2005/2014). *Excessive stress disrupts the architecture of the developing brain: Working paper no. 3*. Updated Edition. <http://developingchild.net>.
- Shah, P., Clements, M., Poehlmann, J. (2011). Maternal resolution of grief after preterm birth: Implications for infant attachment security. *Pediatrics*, 127, 284-292.
- Shonkoff, J., Boyce, W. McEwen, B. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *Journal of the American Medical Association*, 301(21), 2252-2259.



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Through the Vital Village Network, she is supporting the development of community-based strategies to promote child well-being in three Boston neighborhoods. She joined the faculty at Boston University School of Medicine in 2007 and is currently an Associate Professor of Pediatrics. Her work focuses on the role of early-life adversities as life course social determinants of health. She has a specific interest in the intersection of community violence, intimate partner violence, and child abuse and neglect and neighborhood characteristics that influence these patterns.



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Adoption Support and Preservation National Conference
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