



Child–Parent Psychotherapy with Infants Hospitalized in the Neonatal Intensive Care Unit

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Abstract

Hospitalization in the Neonatal Intensive Care Unit (NICU) is a stressful and potentially traumatic experience for infants as well as their parents. The highly specialized medical environment can threaten the development of a nurturing and secure caregiving relationship and potentially derail an infant’s development. Well-timed, dose-specific interventions that include an infant mental health approach can buffer the impact of medical traumatic stress and separations and support the attachment relationship. Many psychological interventions in the NICU setting focus on either the parent’s mental health or the infant’s neurodevelopmental functioning. An alternative approach is to implement a relationship-based, dyadic intervention model that focuses on the developing parent–infant relationship. Child–parent psychotherapy (CPP) is an evidence-based trauma-informed dyadic intervention model for infants and young children who have experienced a traumatic event. This article describes the adaptation of CPP for the NICU environment.

Keywords Infant mental health · Neonatal intensive care unit · Trauma-informed care · Child–parent psychotherapy · Pediatric psychology · Pediatric medical traumatic stress

Hospitalization in the Neonatal Intensive Care Unit (NICU) is a stressful and potentially traumatic experience for infants as well as their parents (Aftyka, Rybojad, Rosa, Wróbel, & Karakuła-Juchnowicz, 2017; Lefkowitz, Baxt, & Evans, 2010), impacting developmental and attachment outcomes. Interventions have been developed to address parental mental health during NICU stays and to enhance neurodevelopmental care for hospitalized newborns. However, these interventions may not be sufficient to optimally support the developing relationship between the infant and parents when this critical developmental period is spent in a medical setting. Utilizing an infant mental health perspective provides a dyadic, relationship-based orientation that shows promise in addressing the parent–infant relationship during this stressful time. This article provides a rationale for the need for this type of service, the role of infant mental health in the NICU setting, and an overview of Child–Parent

Psychotherapy (CPP), an evidence-based intervention for trauma that addresses the parent–child dyad in treatment. Detailed information is provided to describe how the authors adapted CPP to provide trauma-informed, dose-specific, dyadic intervention in the NICU setting.

Psychosocial Needs in the Neonatal Intensive Care Unit

The sights, sounds, separations, and daily experience for families within the NICU setting are stressful, and can interfere with the parents’ opportunity and ability to read the infant’s cues, and exacerbate familial conflict. Parents often have to juggle work responsibilities, the care for other children, and other psychosocial stressors that can interfere with the ability to be at the bedside, alter family communication, and place an additional burden on the development of parent–infant attachment. Events surrounding the child’s birth and the knowledge that the infant is medically fragile requiring intensive medical care are additional stressors. Pediatric medical traumatic stress (PMTS) has been defined as “psychological and physiological responses of children and their families to pain, injury, serious illness,

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medical procedures, and invasive or frightening treatment experiences” (National Child Traumatic Stress Network, n.d.). PMTS is not a traumatic stress disorder but a set of symptoms including arousal, re-experiencing, and avoidance that might be present without meeting clinical criteria for PTSD diagnosis (National Child Traumatic Stress Network, 2014); PMTS occurs in about 30% of children, adolescents, and parents who have been impacted by pediatric illness or injury (Price, Kassam-Adams, Alderfer, Christofferson, & Kazak, 2016). The PMTS model is developmental, and recognizes that trauma unfolds over the course of an illness and treatment (Kazak et al., 2006), including across the period of an infant’s hospitalization in a NICU. The PMTS model has been applied to the experience of families of premature infants (Price et al., 2016). In addition to PMTS, the occurrence of diagnosable mental health conditions in caregivers must be considered. The rates of Post-Traumatic Stress Disorder (PTSD) in parents whose children were admitted to the Pediatric Intensive Care Unit ranged between 10.5% and 21%, with PTSD symptoms being present in 84% of parents (Nelson & Gold, 2012). Given the potential for high levels of emotional need, it is recommended that all NICUs have a psychosocial referral mechanism for parents who meet the criteria for a diagnosable mental health disorder (Hynan, Mounts, & Vanderbilt, 2013). There is a significant need to support parents and families within the NICU setting, as the risk for increased distress and mental health disorders in turn increases risk to the relationship they are developing with their newborn infant (Brockington, 2004; Forcada-Guex, Pierrehumbert, Borghini, Moessinger, & Muller-Nix, 2006).

Given that the level of distress and coping skills in families will vary, a dose-specific intervention is needed. The pediatric preventative health model identifies a three-tiered approach to supporting families that is dose-specific based upon the specific family’s level of need as they adjust to their child’s medical condition; the levels are universal, targeted, and clinical (Kazak, 2006). Universal intervention targets the largest proportion of patients and families who are experiencing understandable distress in reaction to their child’s medical condition but are resilient, with adequate to strong coping skills. A resilient trajectory has been found to be the most common outcome following a potentially traumatic event, and indicates that a person experiences symptoms that are short-term and a return to healthy functioning (Bonanno, Westphal, & Mancini, 2011). Therefore, not all families will need a clinical level of intervention, but a universal intervention such as psychoeducation about the NICU environment, ways to support the baby’s development and attachment, and the offer of psychosocial support may be helpful to most families. Targeted intervention is recommended for a smaller subset of families that present with pre-existing factors predisposing them to experience more difficulty as their coping skills become overwhelmed by the experience of their child’s medical condition. The third tier is

clinical intervention needed by an even smaller group of families who have risk factors for ongoing distress, such as anxiety, depression, a history of mental health difficulties, or previous trauma. Psychosocial services within NICUs must adapt to meet the various levels of family need and opportunities exist to incorporate dose-specific, trauma-informed, evidence-based psychological intervention in NICUs (Hall et al., 2015; Hynan & Hall, 2015; Kenner, Press, & Ryan, 2015).

Established NICU Interventions

Short-term interventions have been developed that incorporate evidence-based components to address symptoms of trauma, anxiety, and depression in parents in the NICU (Jotzo & Poets 2005; Shaw et al., 2013). Other short-term interventions have focused on demonstration activities with mothers and their infants using the Assessment of Preterm Infant Behavior (Browne & Talmi, 2005), on improving infant–parent interactions (Kaarensena et al., 2008; Newnham, Milgrom, & Skouteris, 2009; Rauh, Nurcombe, Achenbach & Howell, 1990; Ravn et al., 2011), and on increasing calming interactions and mother–infant co-regulation (Welch et al., 2012). Interventions to support developmental progress of the baby in the NICU are paramount as premature and medically fragile infants are at significant risk for developmental delays (Laing, Walker, Ungerer, Badawi & Spence, 2011; Vanderbilt & Gleason, 2010), with problematic neurodevelopmental and socio-emotional outcomes particularly in very low birth weight babies (Anderson & Doyle, 2008; Boyd et al., 2013). Developmental care practices, including protected sleep, pain and stress assessment and management, individualized care, activities of daily living (positioning, feeding, and skin-to-skin/kangaroo care), family-centered care, and the healing environment, have been found to reduce short- and long-term developmental complications (Butler & Als, 2008; Symington & Pinelli, 2006). Research also demonstrates the importance of the infant–parent relationship in influencing developmental and neurodevelopmental outcomes in premature and medically fragile infants (Altimier & Phillips, 2013; Davis, Mohay, & Edwards, 2003; Poehlmann & Fiese, 2001). Therefore, it is important to identify evidence-based interventions that hold the parent, the infant, and their relationship in consideration and adapt these interventions for the NICU setting.

Need for Infant Mental Health Interventions in the NICU Setting

Infant mental health refers to “the developing capacity of the child from birth to 5 years of age to form close and secure adult and peer relationships; experience, manage, and express a full range of emotions; and explore the

environment and learn, all in the context of family, community, and culture” (ZERO TO THREE, n.d.). The mental health of the family, the relationship between parent and child, and the socio-cultural context has to be considered when providing services from an infant mental health perspective. Considering the increased survival rates of premature infants, who are then hospitalized in NICUs for lengthy periods of time, the inclusion of mental health services in a NICU requires not only the ability to focus on the caregiver’s and the infant’s individual needs, but also to hold an infant mental health perspective, focusing on the importance of the emerging caregiver–infant relationship (Browne, Martinez & Talmi, 2016). Infant mental health models implemented in NICUs have the potential to prevent or lessen developmental, behavioral, and relational disturbances, enhance the parent–child relationship, and reduce risk factors through the support of parental competencies and infant responses to the parents’ care (Weatherston & Browne, 2016). CPP has promise for application to the NICU, as an intervention model that focuses on the centrality of the parent–infant relationship and directly addresses potentially traumatic experiences of both members of the dyad (Lieberman & Van Horn, 2008; Lieberman, Ghosh Ippen, & Van Horn, 2015).

Child–Parent Psychotherapy

CPP is a relationship-based, dyadic intervention model for infants and young children that aims to restore an optimal developmental trajectory for a parent and child who have experienced a traumatic event and/or are experiencing challenges in attachment relationships (Lieberman & Van Horn, 2008; Lieberman et al., 2015). Grounded primarily in attachment theory, the model also incorporates trauma-based, developmental, cognitive–behavioral, and social learning theories. Through focus on the parent–child relationship and tuning into the individualized needs of each member of the dyad, CPP not only promotes healing in the child but also in the parent. This is done by flexibly utilizing a variety of intervention modalities to address the following key treatment objectives: promoting emotional reciprocity and strengthening family relationships; enhancing the understanding of the meaning of behavior; strengthening dyadic affect and body-based regulation capacities; developing a trust in bodily sensations; and encouraging optimal development and adaptive coping all while honoring the family’s values and socio-cultural context. These objectives rely on creating a strong therapeutic relationship, where hope is conveyed and safety is enhanced. In order to implement the model with fidelity, therapists are trained to consider four primary components throughout the course of treatment: trauma framework, dyadic relationships, emotional process,

and reflective practice (Lieberman et al., 2015; Ghosh Ippen, Van Horn, & Lieberman, 2016).

CPP has been identified as an evidence-based practice by the Substance Abuse Mental Health Services Administration (SAMHSA, 2010). Five randomized controlled trials have demonstrated the effectiveness of CPP for young children exposed to abuse or domestic violence, as well as infants with anxious attachments or depressed mothers (Cicchetti, Rogosch, & Toth, 2006; Cicchetti, Rogosch, & Toth, 2000; Cicchetti, Toth, & Rogosch, 1999; Lieberman, Weston, & Pawl, 1991; Toth, Rogosch, Manly, & Cicchetti, 2006). Since the original outcomes research, the CPP model has been extended and adapted to apply to additional populations of young children. Lieberman, Diaz, and Van Horn (2011) described an application of the model in working with pregnant women who had been exposed to intimate partner violence. Preliminary research using perinatal CPP from pregnancy through the infant’s sixth month demonstrated improvements in maternal depression, post-traumatic stress symptoms, and child-rearing attitudes (Lavi, Gard, Hagan, Van Horn, & Lieberman, 2015). Another study also showed slight increases in the satisfaction with partner relationships in depressed mothers who participated in CPP (Peltz, Rogge, Rogosch, Cicchetti, & Toth, 2015). Published case studies have demonstrated application of CPP with young children with developmental disabilities and pediatric medical traumatic stress (Harley, Williams, Zamora, & Lakatos, 2014) and with mothers and infants impacted by substance use disorders (Paris, Sommer & Marron, 2018).

Setting and Demographics of CPP NICU Pilot Program

In order to test the promise and feasibility of CPP within the NICU setting, the authors implemented a pilot program in an urban Level IV NICU within a children’s hospital (Lakatos, Matic, Carson, & Williams, 2017). The hospital houses a 58-bed NICU with approximately 600 annual admissions of critically ill infants requiring neonatal medical and surgical subspecialty interventions. These include Extracorporeal Membrane Oxygenation (ECMO) and total body cooling. About 50% of the infants remain hospitalized for over 3 months and about 80% receive Medicaid.

The pilot program began in January 2015 and is ongoing, funded with philanthropic support for psychotherapists to provide infant–family mental health services within the NICU setting and through home visiting following discharge home for families with higher levels of need. The four therapists implementing the model include two clinical psychologists and two marriage and family therapists, each of whom have more than 15 years’ experience providing infant–family mental health services and extensive training in CPP.

Referrals to the program are made by hospital social workers, in consultation with neonatologists and nursing staff.

The program has served 139 infants and their families. Participants were ethnically diverse, with 45.32% Latino, 9.35% African American, 4.32% White, Non-Hispanic, and 2.88% Asian American (ethnicity was not available in the medical chart or was listed as “other” for 38.13%). A sizable minority of the families spoke Spanish as their home language (30.22%). The intensity of services has varied depending on the needs of each family. Although traditional CPP provided in an outpatient setting typically lasts for 1 year, when implemented in the NICU the model may be short-term. The length and intensity of each phase may be adapted to fit the family’s length of stay in the NICU, the level of need, and the availability of opportunities for home-based intervention after discharge. In our pilot implementation, 43 families (30.94%) received a brief intervention (one to two sessions), and 23 families (16.55%) received a targeted intervention (three to five sessions). For those needing more extensive services, 31 families (22.30%) received 6–10 sessions, and 42 families (30.22%) participated in more than 10 sessions. The families receiving more than 10 sessions averaged 34.95 sessions per family, indicating a relatively long-term intervention closer to the typical range for the CPP model in an outpatient setting. Across all sessions, the average length of session was 69 min (range 12–129 min).

Implementation of CPP Phases of Intervention in the NICU

CPP is implemented through phases of intervention, flexibly tailored to the needs of the individual family and the concerns that arise in each session. These phases include assessment and engagement, core intervention, and recapitulation and termination. In order to illustrate the application and adaptation of CPP within the NICU environment, each phase of intervention is described below and illustrated with examples based on the authors’ clinical experiences and one actual clinical vignette.

Foundational Phase: Assessment and Engagement

The engagement of families is an essential skill in all treatment approaches and is considered foundational in CPP. However, engagement in the midst of a medical crisis presents with unique challenges and requires a close collaboration with the medical team to identify parents who may be overwhelmed with levels of stress and grief that may be interfering with attachment to their infant.

As with any referral for services that is not self-initiated, the initial referral process sets the stage for ongoing engagement in services. The referring provider must navigate the

delicate balance of connecting with the parent’s need for emotional support and buffer the potential overwhelming feelings the parent might experience in having to relate to one more provider. This can often be achieved with a careful description of the impact of stress on the infant and parent, supporting the parental desire to do well by the baby, and discussing the potential for minimizing overall stress through provision of infant–parent mental health services. However, given the stigma associated with mental health services, referring a family for infant mental health services may need to be done in gradual increments until the family is readily open for support. After the initial referral for CPP has been made, the clinician needs to move quickly and flexibly in order to meet the family on the medical unit, ideally in close collaboration with the referring provider who can facilitate a warm handoff to the services.

Similar to the traditional CPP model, this foundational phase of treatment requires the clinician to build a strong therapeutic alliance with the family and strengthen the parental sense of safety within the crisis-driven NICU environment. Within the NICU, rapport with the parent is often established by listening to the parent’s experience of the baby’s birth and the parent’s level of preparation for NICU hospitalization. For example, the clinician may ask, “Tell me about your pregnancy and your baby’s birth. Were you expecting your baby to have to come to the NICU?” In addition, the clinician must support the parent’s sense of hope and validate the parent’s important role in the medical environment. Through the initial engagement with the family, the CPP clinician establishes a trauma framework, normalizing the response to hospitalization and the impact of the ongoing medical interventions and hospital stay. The clinician begins to help the parent make meaning of the birth experience and reframes the common parental guilt and responsibility associated with the birth of a baby requiring NICU hospitalization. Furthermore, the clinician explores the grief associated with the loss of the healthy imagined baby and supports the parent to begin responding realistically to the infant’s medical condition. The clinician may ask, “What did you imagine the first few days with your baby would be like?” “What did you picture yourself doing as a mother?” The clinician may also ask, “How have your feelings about her medical condition changed over time?” The clinician listens for statements that suggest acceptance, resilience, or more positive meaning making, or on the other hand, recognizes where the specific vulnerabilities may lie. In this way, the clinician begins to understand what level of intervention might be necessary and which areas require more targeted intervention. The meaning-making process that begins with the initial engagement continues in different variations throughout treatment with the goal of placing the experience in perspective and helping the parent

to differentiate between reliving the potentially traumatic experience and remembering it. The clinician also provides some psychoeducation regarding how mothers and fathers may process this experience differently, while normalizing each of their responses.

The CPP assessment process often needs modification when working with families in the NICU. Traditional CPP calls for the use of measures that evaluate the child's and parent's trauma history prior to beginning treatment. However, when families are in crisis, slowing down the process to complete assessment measures can derail engagement and interfere with the therapeutic alliance. Therefore, within NICU CPP, the clinician flexibly explores the history of trauma within the meaning-making process. The clinician obtains information about the pregnancy and pregnancy stressors as well as family history of past experiences within medical settings. In doing this, the clinician identifies any potential triggers that could adversely impact the parent's relationship with the medical team. For example, the nursing team may express frustration with a mother for rarely being present at her infant's bedside even though the family was provided with housing nearby. The clinician would explore whether the mother had any experience with family or friends being hospitalized, and may learn about a family member's hospitalization that ended in death. The clinician would respond empathically stating, "No wonder it is so hard for you to be here." The mother may become tearful as she describes her panic attacks when she gets ready for hospital visits in the morning and may share details explaining why conversations with the medical team, especially family meetings, are particularly triggering. The clinician is also alert for other sources of past trauma, such as adverse childhood experiences, in order to address their potential impact in the context of the budding parent–infant attachment.

Throughout the assessment phase, the clinician is evaluating the degree to which the family has been impacted by the NICU experience, the presence of other psychosocial stressors, capacity for coping and levels of support, availability for participation in services, tolerance to explore their emotional experience, as well as the parent–infant relationship in order to determine the dosage of CPP service needed. For some families, given their level of resilience and a well-established bond with the baby, a brief intervention of one or two sessions is all that is needed. Typically this includes the opportunity to share about the birth and NICU experience, feel understood, have their parental role and relationship with their baby validated, and strengthen their confidence in navigating the medical system. Other families, like the example described above, require a higher dosage of intervention using these same assessment strategies as well as targeted interventions described below. Overall, the foundational phase of CPP in its different dosages seeks to increase a family's sense of safety, convey hope, coordinate

care, and create a trauma frame that validates their experience in the NICU.

Core Intervention Phase

This phase in CPP offers a flexible approach to addressing the multiplicity of issues that occur as a result of stress and trauma that can derail infant–parent attachment. This flexibility is essential when intervening with infants and families in the NICU as their needs vary from 1 day to the next due to instability of the infant's medical condition and the emotional roller coaster many parents experience in this situation. Session length is tailored to the family's need in the moment and may vary from week to week. Traditional CPP offers six modalities for intervening: (a) facilitating developmental progress, (b) providing reflective developmental guidance, (c) encouraging appropriate protective behavior, (d) interpreting the feelings and actions of infants and parents, (e) providing emotional support and empathic communication, and (f) providing crisis intervention, case management, and concrete assistance (Lieberman & Van Horn, 2008; Lieberman et al., 2015). These same six modalities are ideal for addressing the needs of parents and infants in the NICU, as described below. See Table 1 for a summary of modifications to CPP for the NICU setting.

Facilitating Developmental Progress

Interventions to support developmental progress in the NICU are critical for hospitalized infants given their significant risk for developmental delays and later mental health challenges (Rautava, Lehton, Helenius, & Sillanpää, 2003; Vanderbilt & Gleason, 2010). Of particular importance is the need to support the infant's regulation, as this is a cornerstone of infant mental health (Schore, 2015; Ursache, Blair, Stifter, & Voegtline, 2013). As previously discussed, developmental care practices have been identified in literature as key in supporting regulation and overall development (Montirosso, Tronick, & Borgatti, 2016). CPP offers a way to facilitate the implementation of developmental care practices and address barriers that arise due to the impact of stress on parents and the medical team. One of the ways that developmental care is supported in the NICU is through the CPP clinician encouraging physical contact, especially skin-to-skin care, and emphasizing the positive influence of this contact. The CPP clinician may serve as the conduit between the parent and the nurse team by explaining, "Amanda's daddy has been imagining what it would be like to finally hold her but he's a little nervous that he may hurt her." Sharing the father's perspective might encourage the primary nurse to reassure the father that Amanda's medical condition is more stabilized now, and may result in her helping Amanda's father to hold her or provide skin-to-skin

Table 1 Modifications to CPP for neonatal intensive care unit

CPP intervention modalities	NICU modifications
Facilitate developmental progress	Encourage physical contact with baby Encourage active participation in caregiving during hospitalization Hold fathers in mind and encourage their involvement in holding, caregiving, and/or other developmental activities Notice signs of regulation and engagement cues Support engagement in playful activities
Providing reflective developmental guidance	Encourage reflection of the infant's experience Support adjustment of expectations to infant's developmental needs Notice positive interactions with infant that support development, relationship with parent, or sense of safety Foster confidence in parental role Use reflective statements to support fathers in their parental role
Encouraging appropriate protective behavior	Partner with parent in advocating for infant Encourage parent to hold infant during painful procedures and explain what will happen to infant Remind parent of role as protector
Providing emotional support and empathic communication	Provide reflective listening Bear witness to painful experiences Foster empathic communication between family members Reflect different parental perspectives and facilitate empathic communication between parents
Interpreting the feelings and actions of infants and parents	Foster understanding of meaning of behavior for infant, family members, and medical staff Clarify misunderstandings Translate infant's cues or underlying feelings Speak for the baby Support understanding of differing cultural perspectives Recognize and translate different coping styles in parents Provide benevolent explanation of parental behaviors to foster medical team's understanding
Providing crisis intervention, case management, and concrete assistance	Address basic physiological needs such as food and rest Coordinate need for concrete assistance Address psychosocial stressors and linkage with external resources

care during each of her subsequent shifts. The CPP clinician encourages parents to actively participate in caregiving during their infant's hospitalization. Sometimes fathers feel more comfortable leaving that role to mothers because they worry that they might hurt their baby or might not do things the best way. This may even lead to avoidance of the hospital. It is important for the CPP clinician to recognize the underlying factors and support the father's caregiving role in ways that are consistent with his cultural beliefs. Parents are also encouraged to notice their infant's readiness cues to engage, talk, and sing to their infant to expose them to language when in a regulated state, or use strategies to support regulation. Once the baby is ready to transition home, the CPP therapist also helps to support this process so both parent and infant engage in pleasurable developmentally appropriate activities, even when the infant has ongoing medical needs. The therapist helps the family to find new adaptive ways of functioning that are not limited to caring for the baby's medical needs. These activities may be associated with the family's values and expectations, cultural practices,

and belief systems. The clinician also supports linkage to early intervention services when needed.

Providing Reflective Developmental Guidance

Reflective developmental guidance is an educational intervention that provides parents with guidance appropriate to the infant's developmental level, while encouraging a reflective stance in which the parent learns to reflect on their infant's experience. Reflective developmental guidance is useful in helping parents adjust their expectations and manner of interacting to the individualized needs of their infant and to support parents in reading the often-subtle cues of a premature or medically compromised infant. Parents are assisted in recognizing the physiologic state of their infant, and noticing the stress response in particular. "Do you notice Jesus looks different today?" [The clinician pauses to invite the mother's reflection.] The clinician validates the mother's observation and elaborates on this. "Yeah, his eyes are wide open like he's taking everything in, yet his body is fairly

still. This is so different from yesterday when he couldn't stop squirming. He seems alert and ready to engage with you." This causes the mother to begin talking to Jesus using motherese and he responds by turning his head slightly in her direction. A reflective approach is used when the clinician draws attention to times when a parent is doing something that supports their infant's development, relationship to their parent, or sense of safety; in highlighting these moments, CPP clinicians help parents to not only become more aware of their infant's developmental needs, but also begin to feel more empowered in their parental role. This is especially important for parents in the NICU; they often experience a sense of helplessness as they must rely on the doctors and nurses to address the needs of their infant, and often cannot perform the normal day-to-day parental caregiving roles such as holding, feeding, and diaper changing until their infant has stabilized. This helplessness can derail parental role formation, especially for first-time parents, and negatively impact the bonding process. In these situations, parents are reminded of the unique value of their relationship and how this relationship supports their infant's health and development. The CPP clinician might say, "I think she knows you are here even though she's sedated. Your familiar scent and voice comforts her." The CPP clinician further supports the parent's role development by identifying any anxieties which may adversely alter parent's expectations of their child. When the mother states, "I don't think she knows I'm her mother, I've been gone so long," the clinician explains how babies recognize their mother's scent at birth and prefer it to others. "Let's put your scent on this lovie and leave it with Carla when you go home tonight. She'll have some part of you here with her even when you are apart." The clinician helps parents tune in to their intuition about what is optimal for the infant and engage in activities that will foster the infant's development even within the NICU environment such as singing, reading, and talking to their baby.

Encouraging Appropriate Protective Behavior

It is essential to emphasize the parent's utmost important role in the life of their infant. This can be easily forgotten when babies are in critical condition. Family-centered care (Gooding et al., 2011), one aspect of developmental care, emphasizes the parents' key role and can be facilitated by the CPP therapist. An important part of a parent's role is to serve as a protector and buffer the infant from stress. The CPP therapist partners with parents in advocating for their infant. Sometimes this comes in the form of communicating their infant's need for protected sleep or quiet time or advocating for continuity of care by requesting to have a consistent nurse, or primary nurse, so their infant can find comfort in a familiar adult even if parents have to be away.

The CPP clinician may encourage the parent to hold their infant during procedures when possible, to reduce pain and discomfort, and to talk to their infant to explain that the doctor or nurse is trying to help them get better. Even though the infant cannot understand the content of the parents' words, this kind of soothing narration helps the parent feel calmer and more in control, and in turn provides a reassuring tone that the infant picks up on. When a father stands at a distance as the nurse prepares to do a heel prick, the clinician reminds the father that his daughter may feel more protected in the safety of his arms. The benefits are threefold: the parent is empowered in his role and no longer stands by helplessly watching as the nurse engages in a necessary yet discomforting intervention, the infant is soothed by the parent's touch or voice, and the nurse is helped to recognize and support parents in their role as protector in the future. The parent's protective role may also come in the form of a decision that one more intrusive procedure is just too much for their infant to endure, or deciding to allow natural death of a terminally ill infant, one of the most significant and emotionally laden decisions a parent may make in their lifetime. In such situations, the CPP clinician works collaboratively with the social worker and/or the palliative care team, to support parents in their decision-making process. Sometimes, the emotional burden of such decisions is just too great for parents to tackle alone and the CPP clinician helps communicate this to the medical team so the team can help "hold" and support the decision-making process.

Providing Emotional Support and Empathic Communication

The NICU environment can be saturated with intense emotions. Often the high acuity can lead to dysregulated behavior and can inadvertently hinder effective communication among and between parents and the medical staff. Therefore, the provision of emotional support and empathic communication is a frequently used CPP intervention in this setting. The emotional rollercoaster may strain the relationship between the couple and lead to broader conflict within the family. There may be different opinions about decisions and differences in cultural beliefs and values. Sometimes parents take different roles in the NICU. For example, in a family where the mother is at bedside most of the day observing the medical procedures and how the baby is responding and the father is providing financial support and is visiting infrequently, communication difficulties may arise. When the doctors wonder if the parents want to continue one of the treatments, the working parent feels that this is not a choice for the family but one for God. The CPP clinician invites the parents to come together in a private setting and supports each of them to share their perspectives. Each voice is reflected and validated. If one or the other parent

has difficulty sharing their perspective, the clinician makes a guess and explores aloud, “I wonder if you might be feeling that she is suffering too much from all the procedures? [Long pause] I remember you both talked about how the situation is in God’s hands. [Another long pause] You are patiently waiting to learn God’s will but it is so hard to see Teresa go through so much each day to stay alive.” This situation exemplifies a Tier-3 situation where more extensive services are warranted. Fathers may be more prone to emotionally withdraw or present a positive outer shell because they feel they must be strong for the mothers. Alternatively, they may withdraw from the hospital and focus on working to maintain the financial stability of the family, but this may also serve as a way of coping to protect themselves from the emotional experience as in the example above. However, this approach sometimes leaves mothers feeling alone with the intense emotions. New parents are particularly vulnerable to conflict with extended family as they are still in the process of transitioning to their new parental role and developing boundaries in their couple and parental subsystem. The stress of the situation and the emotional reactions can come in the form of anger outbursts, hostile communication, sadness and crying, anxiety, and/or withdrawal. These feelings may become symptoms of more serious disorders, such as depression, and/or Acute- or Post-traumatic Stress Disorder. The CPP clinician serves as the container for these emotions and responds with empathic understanding, normalizing the feelings and reactions, given the context of the crisis. For example, the mother of a premature infant with a history of miscarriages, might feel responsible and guilty for not being able to “hold” her infant longer in pregnancy. The burden of this guilt and the recent history of the infant’s unstable condition may lead the mother to be anxious and disengaged. The CPP clinician may notice this manifests in the mother rarely holding her baby. The clinician creates space for the mother to share her feelings and names them, “You feel like this is your fault. So many mommies feel guilty when their babies end up here. You wish there was something you could have done differently to change this but I’m not sure there was.” The clinician reminds the mother that she and the doctors tried everything to keep her baby inside longer but he had different plans and then states, “But you can hold him now. You can place him up against your chest so he can hear your heartbeat just like he did when he was inside your belly.” The CPP clinician can also collaborate with the medical team so the parent could hold the baby and be present when this happens to provide emotional support. Additionally, the clinician may learn that the father had not been visiting. The mother may explain, “He’s off to work every day focused on other things while I’m here alone sad and worried constantly.” The clinician helps the mother understand that this is the father’s way of taking care of his family and supports the mother in identifying and

communicating her needs to the father. The clinician also provides reflective listening, and when there are seemingly unbearable experiences, news, heartbreak, or hopelessness, and nothing more can be done to change the situation, the CPP clinician sits with the parents and bears witness.

Interpreting the Feelings and Actions of Infants and Parents

This essential intervention relies on the principle that all behavior has meaning and that understanding the meaning of behavior can increase empathy and sensitive responding. The CPP clinician may stand at the infant’s bedside with a parent and observe the infant’s behavior, translating cues or reflecting potential underlying feelings. The clinician may notice out loud the infant’s reaction to noise or overstimulation, to help the parent make necessary adjustments in order to co-regulate the infant. The clinician may speak for the baby, “Mama, it’s too loud. I need some quiet time with you.” A strength-based approach is used, typically highlighting when the parent accurately reads cues and provides sensitive parenting. For example, the clinician might say, “He likes it when you sing softly to him. Look at how his body relaxed.” There are times when less than optimal behavior is gently interpreted to bring it to the parents’ attention while honoring the benign intentions behind the behavior. For example, when a parent sneaks out of their infant’s room without saying goodbye, the CPP clinician might say, “It’s so hard for mommy to say goodbye because it makes her so sad to leave you” and then add, “but it’s confusing and scary when your mommy just disappears.”

In the NICU, stress often impacts family communications and conflict can arise from differing perspectives. For example, when there is a misunderstanding between the parent and the medical team, the clinician helps the team understand that the parents’ overly directive or demanding behavior is actually an attempt to gain some control in an environment where they feel completely helpless. At the same time, the CPP clinician might help the parent understand the reasons behind the medical team’s restrictions on parent involvement, offering benevolent explanations of each party’s behavior.

Providing Crisis Intervention, Case Management, and Concrete Assistance

One inherent and most prominent characteristic of all NICUs is the context of crisis. There is typically little the parents can do to influence their child’s health outcome, thus leading to a sense of helplessness. The CPP clinician is challenged to find ways to increase an infant and family’s sense of physical and psychological safety in the midst of the NICU crisis, yet, similar to traditional CPP, when providing CPP in the NICU focus on safety is the foundation for all other interventions.

This is accomplished through addressing basic needs, such as helping to ensure that the parents are eating, drinking water, and getting some sleep; and coordinating with the NICU social worker to conduct case management and provide concrete assistance, such as transportation passes or temporary hospital-sponsored housing. Crisis intervention also involves normalizing parents' reactions and assisting parents to use or develop adaptive coping strategies to manage their stress and heightened emotions.

Supporting families in the NICU also requires coordination of care. The clinician providing NICU CPP often hears about challenges the family is experiencing with the medical team and the family's multiple psychosocial stressors that may predate hospitalization and become exacerbated during the NICU stay. As part of CPP treatment, the family is supported in addressing challenges of daily living by coordinating care with social workers and linkage with external resources.

When the infant's recovery becomes clear and the family is preparing for the transition home, parents often experience a crisis of confidence as this is often not what they had anticipated during pregnancy. While the NICU social worker and discharge coordinator help to set up concrete assistance for them at home, the CPP clinician supports the parents to come to terms with this new plan, communicate their needs, express their fears in relation to this transition, and build their confidence as they engage in education activities and take a more active role in their infant's care in preparation for going home.

Recapitulation and Termination Phase

The goal of this final phase of CPP is to reinforce gains made in treatment, anticipate future challenges, remind the family of their acquired skills, and have a planned goodbye. Within NICU CPP, termination happens in a variety of ways, often depending on the intervention dosage. Some families may continue services after the baby goes home, others may taper off, and still others may terminate abruptly.

With those families that remain in services as they prepare for discharge, anticipatory guidance is emphasized to help parents prepare for their increase in responsibility caring for their infant with special needs independently and without the aid of monitors. The CPP clinician normalizes parents' fears and worries about caring for their infant alone and bolsters their sense of confidence in their parental role and abilities. This transition also involves preparing the family for their advocacy role in linking with and utilizing early intervention services. Other parents will be adjusting to the addition of nurse caregivers and/or early intervention providers within the home setting, and the therapist can be helpful in navigating these relationships and helping the parent to take on the primary caregiving role. As the family prepares

for discharge, the clinician is re-assessing the family's need for ongoing mental health support. While the clinician may have recommendations and ideas about ongoing areas of need, parents may not draw the same conclusions. Due to the nature of the medical environment, termination can happen abruptly and there is not always the opportunity to have a planned end date. Sometimes parents decide to focus on medical needs of the infant and do not feel the energy to participate in mental health sessions. Some parents, once home, may be too overwhelmed to respond to calls from the CPP clinician and others feel that the connection with the CPP clinician is a reminder of their hospital experience and do not respond to the clinician's attempts at closure.

Other times the infant is discharged and the family lives too far from the mental health program to come to the clinic or for the clinician to conduct home visits; in this case, phone sessions and linkage to other agencies may be important components of the intervention and process of termination. In other cases, the infant does not survive, and the termination occurs through a final phase of supporting the parents and other family members in their grief.

Following is an example of a case where CPP services were initiated in the NICU and continued at home for an extended period of time; changes in some details are made to protect the family's confidentiality. This illustrates the phases of treatment in a tier-3 case and some of the interventions used.

José was referred to the infant–family mental health program when his social worker became concerned about the level of stress his mother was experiencing while staying in the NICU. His family presented with multiple psychosocial stressors including limited financial resources and a history of domestic violence with mother's previous partner. The CPP clinician that began working with the family in the NICU learned that José had been born full term, but following a complicated delivery, he was diagnosed with hypoxic ischemic encephalopathy, and had difficulties which required a g-tube placement. In addition, his mother had medical complications as a result of the delivery, which impacted her daily functioning and later required surgery.

During the initial engagement with José's family, the therapist explored his mother's experience with pregnancy and delivery, normalizing her stress responses and addressing her guilt about leaving her three other children, 2, 11, and 16 years olds at home while she was in the NICU. The clinician had to frequently remind the mother that father was at home caring for the children, and that "it will be okay if they eat Campbell's soup for a few days." The clinician also learned early on that Jose's mother had been struggling with depression since the birth of her 2 years old and this was exacerbated by the presenting medical challenges. Mother described herself as feeling emotionally detached and absent at times. She was observed to attune lovingly to

her baby for a moment and then raise her voice in frustration regarding her family or hospital circumstances, unaware of the impact this had on José. During hospitalization, the baby showed very limited engagement cues and was fussy most of the time. The CPP clinician worked with mother on understanding and responding to his cues, and shifting toward a realistic understanding of José's condition as she tended to catastrophize it. She also began to help the mother manage the stress associated with his hospitalization, and notice her reactive behavior. Prior to José's discharge from the hospital, his mother was referred to psychiatric services to address her depression. Given the level of psychosocial stressors, mother's depression, and the impact it was having on the parent–infant relationship, this dyad was considered for more intensive CPP services. Treatment continued at home during weekly visits following the 3 months of services in the NICU.

As part of the CPP treatment both in the NICU and at home, the clinician empathized and helped contain the mother's emotional experience, often bearing witness to what the mother experienced as unbearable, sometimes simply sitting still and listening. The clinician provided psychoeducation to the father about mother's depression, supported the father in taking a more active role with the other children, and also in bonding with José. The clinician facilitated communication between both parents when conflict arose between them, and helped both parents understand the older children's experience with José's hospitalization. She supported both parents, particularly mother, to gain confidence in their capacity to care for José. Additionally, treatment focused on fostering engagement with their baby and helping mother notice the impact of her interactions on José. "Look at how he brightens up when he hears your voice. He seems to still his body and when you speak softly, he turns to look at you. He also seems to like it when you rock him gently. Let's notice what else seems to help him become more engaged?" The clinician helped her notice when she responded to his smiles with flat affect and, as mother began to gain more insight into the impact of her behavior, she would ask, "Does that matter?" This often led to further reflection on her traumatic childhood experiences and mother would say, "Could you imagine what it was like living with a mother who was like this all the time?" referring to her own mother's neglect due to alcoholism. The clinician used these opportunities to explore the mother's past painful experiences and help her notice the many ways in which she was trying to have a different kind of relationship with all her children. As this weekly therapeutic work continued, the clinician noticed an increase in mother's capacity for a reciprocal relationship with José in which she delighted in his responses and had more extended interactions with him that were not interrupted by angry outbursts. Her depression began to gradually lift and there was greater stability in the family.

Throughout the treatment, the clinician assisted with the coordination of José's care and addressed cultural differences and beliefs that impacted her engagement with systems of care. The clinician aided José's mother in learning to navigate the challenges of a complicated medical system as she often described feeling lost and helpless as if she were in "a labyrinth," especially because she did not speak English. The CPP clinician facilitated linkage to early intervention services as well as other parenting supports for her older children.

As treatment was coming to an end after almost 2 years, the clinician reminded parents of their strength and resilience, acknowledged their capacity to advocate for José's needs, and recognized how they had learned to individualize their parenting for each child. She helped them anticipate situations which might be triggering for them and reminded them of the coping strategies they had learned. Prior to concluding treatment, José's mother reflected on her experience with José's birth and medical challenges and how CPP treatment had helped. She said, "It's like a journey, an adventure you were not prepared for. But thanks to [the clinician's] work with us and giving us tools to survive on this journey... [she] guided us, and it's very important because we didn't know where to go or what doors to knock on, but with [the clinician] on my team, it helped me to feel more secure."

Summary and Conclusions

With the increased recognition of the potentially traumatic impact on parents and infants of hospitalization in the NICU and the factors that promote resilience, there is a need to provide intervention that supports not only the parents and the infant, but also their developing relationship. There has been a longstanding recognition of the impact of medical traumatic stress on parents and children impacted by pediatric illness (Kazak et al., 2006; Price et al., 2016); however, a developmentally appropriate, relationship-based approach that infuses infant mental health principles may have particular promise when intervening to support optimal outcomes for infants and families in the NICU. As outlined above, CPP is an evidence-based model that is relationship-based, attends to the parent, infant, and the dyad, and can be adapted for intervention within the NICU setting. It is a model that focuses on the stress and trauma experienced by both the infant and the caregivers, and supports their co-regulation. In line with conclusions drawn from systematic reviews of short-term interventions used with families that have an infant in the NICU (Guralnick, 2012; van Wassenaer-Leemhuis et al., 2016), CPP helps parents to better understand their infant's unique characteristics, respond more sensitively, and strengthen the infant–parent relationship over time to foster the infant's optimal development. Additionally, NICU CPP is compatible with developmental care practices

and supports parents in understanding and integrating these when parenting their medically fragile infants.

Although the CPP model has established phases of treatment that have been adapted as described in this article for the NICU setting, it is important to note that not all families will have the clinical need to progress through all stages of treatment. Therefore, given the crisis nature of the NICU, a dose-specific model that aligns with the Pediatric Psychosocial Preventative Health Model (Kazak, 2006) is recommended. By having a psychologist embedded in the NICU (Hynan & Hall, 2015), an assessment of each family's psychological and coping needs can occur and an appropriate dose-specific amount of support and intervention can be provided, utilizing the CPP interventions described above. For example, universal intervention may consist of providing general education about common symptoms of stress that a family may experience while in the NICU, as well as strategies to help support the parents to interact and engage with their medically fragile infant; whereas an increased level of emotional distress in the parent, such as PTSD or depressive symptoms, particularly if they impact the parents' ability to attune to their infant, would indicate a more intensive, clinically focused level of intervention. CPP offers a flexible approach to addressing the multiplicity of issues that occur as a result of stress and trauma within the NICU that can derail infant–parent attachment. CPP acknowledges the centrality of the dyadic relationship for young children and parents, providing an opportunity to enhance and support that relationship during a time of acute risk and vulnerability in the NICU, with the recognition that the parent–child relationship will foster future infant development and regulation well beyond the point of discharge from the NICU and outside the hospital setting.

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Compliance with Ethical Standards

Conflict of interest Patricia P. Lakatos, Tamara Matic, Melissa Carson, and Marian E. Williams declare that they have no conflict.

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