

Improved Bonding & Maternal Self-Efficacy in the NICU: A Scoping Review

McKenLeigh Hill, BSN, RNC-NIC and Alexandria Nauert, BSN-RNC-NIC

Faculty Advisor: Dr. Bobby Bellflower, DNSc, NNP-BC, FAANP

College of Nursing - The University of Tennessee Health Science Center - Memphis, TN

Purpose

The purpose of this project is to synthesize the literature regarding methods to improve bonding and attachment between NICU patients and their mothers to improve long-term outcomes for the whole family.

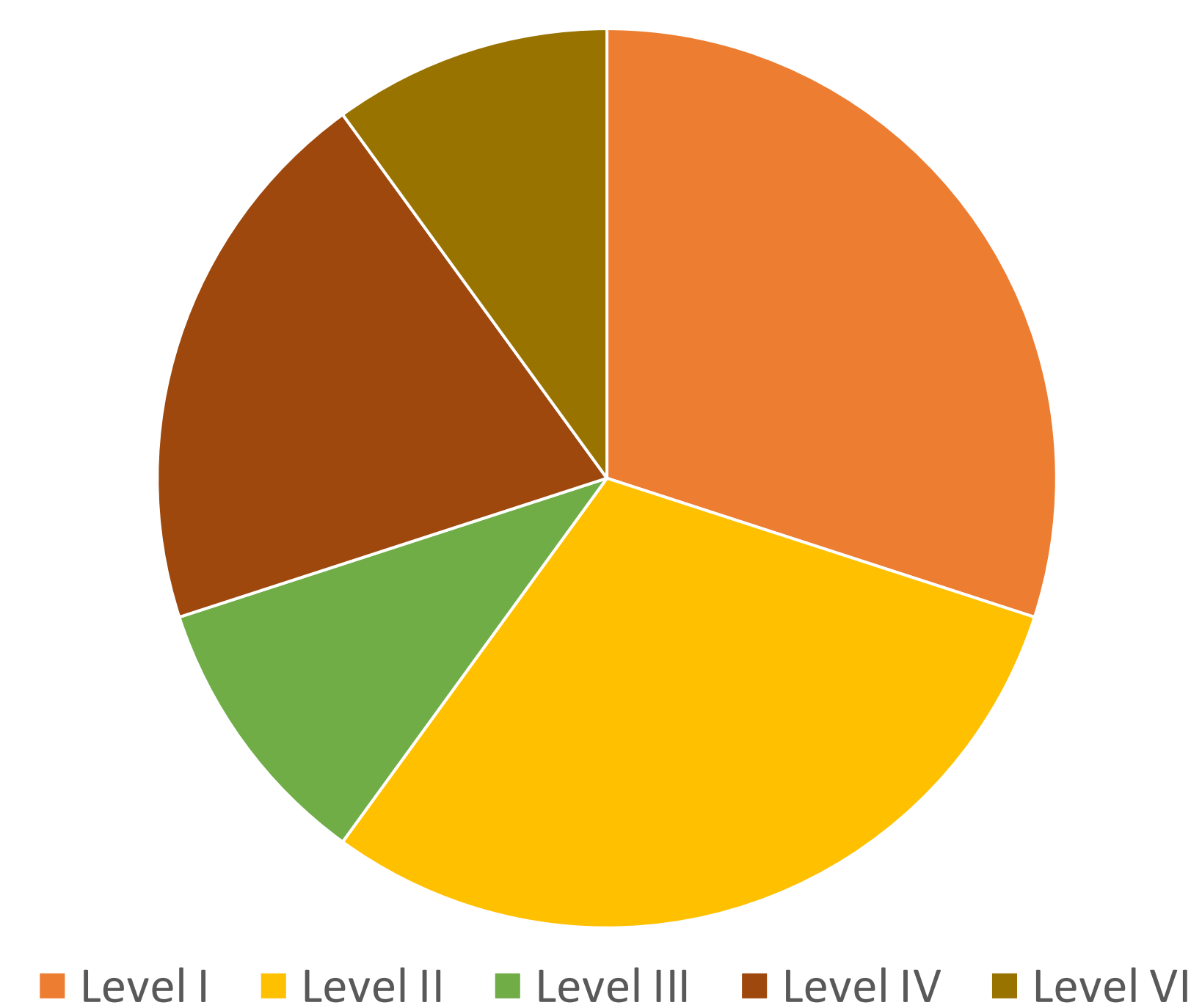
Background

- Admission to the NICU can impede the mother-infant bonding and attachment process
- Mothers of infants admitted into the neonatal intensive care unit (NICU) are at risk for developing anxiety, depression, and post traumatic stress disorder (PTSD) related to their child's hospitalization
- Research shows that children of mothers suffering from these issues are more likely to develop their own behavioral, emotional and cognitive problems later in life
- Improved maternal self-efficacy and facilitated bonding with their critically ill newborn could improve outcomes for both the infant and the mother

Methods

- Literature Search
 - October 2020-November 2022
 - Databases: UTHSC Online Library Discovery Service, MEDLINE, CINAHL, Cochrane Library, and PubMed
- Eligibility Criteria
 - Published in scientific journal within the last 22 years
 - Written in English
 - Setting in neonatal intensive care unit
 - Focus on NICU mothers or parents as a dyad
- Rapid critical appraisals to determine levels and strength of evidence
 - Used to select the 10 articles used in this project

Levels of Evidence



Methods

Outcomes Synthesis Table

	1	2	3	4	5	6	7	8	9	10
MSE	√NR	↑	↑	↑	√NR	NE	↑	↑	↑	NE
MC	√NR	↑	↑	NR	√NR	NE	NR	↑	↑	NE
MIB	√NR	↑	↑	↑	√NR	—	NR	√NR	↑	↑
PDC	NE	NR	NR	NE	NE	↑	↑	↑	NR	NE
MAS	NE	NE	↓	↓	NE	↓	↓	NE	NE	↓
MD	NE	NE	↓	NE	NE	√NR	↓	NE	NE	NE

Symbol Key: ↑ = Increased, ↓ = Decreased, — = No change, NE = Not Examined, NR = Not Reported, √NR = Applicable or present; MSE = maternal self-efficacy, MC = maternal coping and/or confidence; MIB = maternal/infant bonding, PDC = preparedness for discharge, MAS = maternal anxiety and/or stress, MD = maternal depression

Legend: 1= Barnes C.R. et al. (2007) 2= Kadiroglu, L.T & Tufekci, F.G (2021) 3= Kasparian, N.A. et al (2019) 4= Hsiao, R., et al. (2016) 5= Kachoosangy, R.A., et al. (2020) 6= Petteys, A.R. & Adoumie, D. (2018) 7= Carty, C.L., et al. (2018) 8= Ingram, J.C., et al. (2016) 9= Veenendaal, N.R. et al. (2022) 10= Guillaume, S. et al. (2013)

Results

- Individualized education and family-centered care leads to positive outcomes that benefit both NICU patients and mothers.
- Individualized education was shown to improve bonding & attachment in the NICU by increasing confidence and improving mental health in NICU mothers
- Specifically, increased maternal confidence makes the difference in the involvement of care for the patient and positively motivates the mother to prepare for discharge home.

Implications for Practice

- When NICU mothers are given individualized education, it increases their self-efficacy, which strengthens the bond between the mother and her child.
- Mothers of NICU patients, especially those with chronic diseases, can benefit from individualized education and family-focused care and should receive interdisciplinary education from all specialties of the medical team.
- A protocol of specific education and interventions for mothers would foster an environment of family centered care with the goal of increased family involvement, mother-infant attachment, and potentially decreased length of hospital stay.

References

- Barnes, C. R., & Adamson-Macedo, E. N. (2007). Perceived maternal parenting self-efficacy (PMP S-E) tool: Development and validation with mothers of hospitalized preterm neonates. *Journal of Advanced Nursing*, 60(5), 550-560. <https://doi.org/10.1111/j.1365-2648.2007.04445.x>
- Carty, C. L., Soghier, L. M., Kritikos, K. I., Tuchman, L. K., Jiggetts, M., Glass, P., Streisand, R., & Fratantoni, K. R. (2018). The giving parents support study: A randomized clinical trial of a parent navigator intervention to improve outcomes after neonatal intensive care unit discharge. *Contemporary Clinical Trials*, 70, 117-134. <https://doi.org/10.1016/j.cct.2018.05.004>
- Gardner, S., Voos, K. (2021). Families in Crisis. In Gardner, S., Carter, B., Hines, M., & Hernandez, J. (Eds.). *Merenstein & Gardner's Handbook of Neonatal Intensive Care*. (9th ed. pp. 1039-1095). Elsevier, Inc.
- Guillaume, S., Michelin, N., Amrani, E., Benier, B., Durrmeyer, X., Lescure, S., Bony, C., Danan, C., Baud, O., Jarreau, P., Zana-Taïeb, E., & Caeymaex, L. (2013). Parents' expectations of staff in the early bonding process with their premature babies in the intensive care setting: A qualitative multicenter study with 60 parents. *BMC Pediatrics*, 13(18), 1-9. <https://doi.org/10.1186/1471-2431-13-18>
- Hsiao, R., Pitetti, K., & Smith, B. (2016). Application of perceived maternal parenting self-efficacy (PMP S-E) questionnaire in a mid-west community Medical Center NICU in the United States. *Neonatal and Pediatric Medicine*, 02(01), 1-6. <https://doi.org/10.4172/2572-4983.1000106>
- Ingram, J. C., Powell, J. E., Blair, P. S., Pontin, D., Redshaw, M., Manns, S., Beasant, L., Burden, H., Johnson, D., Rose, C., & Fleming, P. J. (2016). Does family-centred neonatal discharge planning reduce healthcare usage? A before and after study in south west England. *BMJ Open*, 6(3), e010752. <https://doi.org/10.1136/bmjopen-2015-010752>
- Kachoosangy, R. A., Shafaroodi, N., Heidarzadeh, M. M., Qorbani, M., Bordbar, A., Shirmard, M. H., & Daneshjoo, F. (2020). Increasing mothers' confidence and ability by creating opportunities for parent empowerment (COPE): A randomized controlled trial. *Iranian Journal of Child Neurology*, 14(1), 77-83.
- Kadiroglu, T., & GÜDÜCÜ Tüfekci, F. (2021). Effect of infant care training on maternal bonding, motherhood self-efficacy, and self-confidence in mothers of preterm newborns. *Maternal and Child Health Journal*, 26(1), 131-138. <https://doi.org/10.1007/s10995-021-03287-0>
- Kasparian, N. A., Kan, J. M., Sood, E., Wray, J., Pincus, H. A., & Newburger, J. W. (2019). Mental health care for parents of babies with congenital heart disease during intensive care unit admission: Systematic review and statement of best practice. *Early Human Development*, 139, 104837. <https://doi.org/10.1016/j.earhumdev.2019.104837>
- Petteys, A. R., & Adoumie, D. (2018). Impact on NICU parent stress and infant length of stay: A randomized controlled pilot study. *Advances in Neonatal Care*, 18(2), E12-E22. <https://doi.org/10.1097/anc.0000000000000474>
- Schechter, R., Pham, T., Hua, A., Spinazzola, R., Sonnenklar, J., Li, D., Papaioannou, H., & Milanaik, R. (2019). 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>
- Van Veenendaal, N. R., Van Kempen, A. A., Broekman, B. F., De Groof, F., Van Laerhoven, H., Van den Heuvel, M. E., Rijnhart, J. J., Van Goudoever, J. B., & Van der Schoor, S. R. (2022). Association of a zero-separation neonatal care model with stress in mothers of preterm infants. *JAMA Network Open*, 5(3), e224514. <https://doi.org/10.1001/jamanetworkopen.2022.4514>