Research Round-up
December 2022

Reference: Gonya, J., E. Martin, R. McClead, L. Nelin, and E. Shepherd. 2014. 'Empowerment programme for parents of extremely premature infants significantly reduced length of stay and readmission rates', *Acta Paediatr*, 103: 727-31.

url: https://pubmed.ncbi.nlm.nih.gov/24766486/

Welcome to the December 2022 Research Round-up. This month we will look at an article entitled "Empowerment programme for parents of extremely premature infants significantly reduced length of stay and readmission rates". This article was published in 2014 in Acta Paediatrica. I picked this because I found it while reading the article I highlighted in October. It is old – 8 years! But the topic of parental involvement is even more relevant I think today – in the age of the pandemic. Click on the URL above to go to the full text. Remember to download the handouts "Critical Review of the Literature" and the Research Roundups definitions file if you need information on any of the abbreviations used. We will go through this article to better understand what was done and what we can draw from this article.

Title: The title accurately describes the study.

Abstract: The abstract summarizes the Aim, Methods, Results, and Conclusion of the study.

Background or Introduction: Because this is a study that was published 8 years ago, I decided not to go through the "age" of the references used. There are twenty-six references in all. The authors begin with discussing the longer-term outcomes of NICU infants, and the complications and stressors of hospitalization. They introduce COPE, a program designed to encourage parents to actively parent their infant in the NICU. COPE was studied in a population of preterm infants born with an average age of 31 weeks, who were all in-born. Little is known about the effects on infants who are extremely preterm. This study was a quality improvement study with infants who were transferred into a level IV, all referral small baby ICU.

Study Population: The authors describe the context of the study – the NICU environment. The population of infants in this unit are born at a gestational age of 27 weeks. 135 infants in the control group, and 168 infants in the COPE group were included. There were no significant differences in mean GA or weight at birth. No significant difference of other morbidities or mortality, and a similar percentage of the families covered by Medicaid.

Methodology: Parental visitation and engagement are encouraged but were not formalized in the comparison group's time. The study population included infants who were in the NICU after the COPE program was started. There was a span of 4 years between start and end of data collection. The authors summarize the goal of the COPE program: this is a tool that is designed to help families become familiar with the NICU environment and with their infant's behavior, and to identify ways they can support their infant's development. The authors also summarize the costs (materials and staff time) for the program - $286.00 per

infant. The program is offered using a notebook, separated into four sections. The implementation of the study (who met with the parents, what was discussed, enrollment into the study) is described next. There are follow-up phone calls while the infant is in the NICU as well as shortly after discharge. Data were collected along the way.

Statistical Analysis: Descriptive statistics are used to describe the population. Nonparametric tests compared length of stay and readmission rates. T-tests where appropriate were also used.

Outcomes/Results: There were significant differences in outcomes. There was a significant decrease in length of stay ($p<0.05$), with 127 days vs 140 days. There was also a significant decrease in rate of readmission, with 13% of study babies vs 24% of control babies readmitted within the first year after discharge. Most families indicated they felt the COPE study information was useful – especially in the early two sections.

Discussion/Conclusions: The authors begin by discussing in general the benefits of family-centered care in the NICU setting. They also describe the benefits of active parental presence, which includes a decrease in neonatal stress, improved neonatal self-regulatory capacities, and neurodevelopmental outcomes. The authors were not surprised by the decreases in length-of-stay but were surprised by the decrease in readmission rates. They go on to describe the need for studies of whether parents are better able to read their infant's cues using this program, since they did not directly assess that as an outcome. The authors describe the limitations, the study strengths, and other explanations for their findings. I do appreciate that they point out the difference in time between the care of the control and the study babies, and their considered and thoughtful discussion of why they feel it was not a factor. They concluded by discussing the importance of including parents as active participants from the day of admission through discharge, and suggestions for future studies of the COPE program.

Does this fit with your experience: Yes. In fact, there is a growing movement for "zero-separation" – likely in response to the pandemic and restrictions that were placed on families. I have been fortunate – we have had an open policy for parents since the early 1990s, except for the early days of the pandemic. With the first wave of the pandemic, we shut the unit to allow only one parent at a time at the bedside. I still feel bad about that. But we figured out quickly that was not appropriate. But then, COPE does more than tries to keep families in the unit; COPE is focused on education and active participation. And on teaching families to be co-regulators. Wouldn't we all benefit from someone who knows us and can help us cope with the stressors of life?

Other: The authors disclose there are no conflicts of interest. The project was approved by the IRB board of the Children's Hospital.