Exploring an Interdisciplinary Support Model for ROP Exams in the NICU

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Background

Retinopathy of prematurity (ROP) examinations frequently occur in the newborn intensive care unit (NICU). Ophthalmologists conduct these critical exams to screen, diagnose, and monitor the progression of ROP, with intervention required in severe cases. These exams can be highly stressful and potentially traumatic for critically ill infants and distressing for caregivers to witness. Effective management of the infants' stress and discomfort during these procedures is crucial for their overall development and recovery.

The author is part of an interdisciplinary team composed of ophthalmologists, developmental nurses, music therapists, child life specialists, and integrative care nurses. Over the past four years, this team has developed, tested, and refined a tiered support model aimed at providing non-pharmacologic intervention at every stage of the ROP exam: before, during and after. This model is grounded in five core measures of trauma-informed, age-appropriate care[1] and Als' synactive theory of infant development,[2] which emphasizes the importance of individualized and developmentally supportive care for preterm infants.

Aim

The aim is to highlight the theoretical framework and evidence base underpinning the model's design and implementation while providing a systematic overview of the model's development history and its application in a level IV NICU in the United States. It will also include a discussion of the practical challenges and solutions encountered during the implementation process.

Methods

The new model was initiated as a change in clinical practice. Previously, the ROP exam team consisted of an ophthalmologist, developmental nurse, and child life specialist, with support for the infant provided only during the examination due to time constraints and the volume of examinations. Recurring negative outcomes, such as increased stress responses and delayed recovery in infants, prompted a critical review of the process.

Through a comprehensive literature review, feedback from bedside staff, and the integration of personal experiences, a support model offering pre-, intra-, and post-exam interventions was developed. The pre-exam phase, provided by a music therapist, includes measures such as swaddling, providing positive touch, and soft singing or humming. During the exam, a child life specialist employs strategies such as gentle touch, non-nutritive sucking, and containment while maintaining a quiet environment. Post-exam care involves a holistic nurse providing comforting and grounding techniques. Families are incorporated into each phase of the process as much as they are comfortable.

After multiple iterations and testing, the final version was established as the new standard of care. The implementation process included staff education, protocol development, and ongoing evaluation to ensure adherence and effectiveness.

Results/Findings

Informal data collection, consisting of conversations with staff and discussions among the ROP team members indicated several positive outcomes. The new model resulted in increased family involvement and satisfaction, enhanced staff comfort and confidence during the exam process, and reduced negative clinical outcomes.

Conclusion

The development and implementation of this support model underscore several key insights related to the NIDCAP model:

- The importance of recognizing and responding to infants' behavioral cues, which is central to providing individualized, developmentally appropriate care.
- The impact of sensitive caregiving on clinical outcomes, demonstrate that non-pharmacological pain and stress management interventions can significantly reduce stress and improve recovery in preterm infants.
- The effective incorporation of families into the support process for stressful and painful procedures, highlights the role of parental involvement in promoting infant wellbeing.
- The benefits of interdisciplinary collaboration in navigating complex healthcare systems to minimize discomfort and agitation during procedures through non-pharmacological interventions.

Relevance to NIDCAP

This model serves as a promising framework that can be adapted and implemented in other NICUs to enhance the quality of care for vulnerable infants.

References:

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