

A Mixed-Methods, Multiprofessional Approach to Needs Assessment for Designing Education

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Context and Setting

Like most hospital units, neonatal intensive care units (NICUs) are multidisciplinary and team-based. As a result, providing optimal nutritional care to premature infants involves using the knowledge and skills of several types of professionals. Using traditional needs assessment methodologies to effectively understand the educational needs regarding nutritional support therapy within NICUs could result in a limited, one-dimensional view. Rather, what is needed is a research strategy that accounts for multiple perspectives and varying roles involved in the feeding of premature infants. Such a strategy will identify educational gaps of both the health care team and its individual members, thereby enabling the design of evidence-based educational interventions that most effectively meet the needs of NICU professionals.

Why We Undertook the Initiative

As CME researchers, planners, and educators, we understand the importance of in-depth, high-quality needs assessment information when planning impactful educational interventions. Without adequate needs assessment data, educational interventions will fail to meet their full potential in changing the practice of health professionals and, ultimately, improving patient care. Our overarching goal was to conduct a comprehensive needs assessment to formulate actionable

educational strategies that improved the delivery and implementation of nutritional support therapy in NICUs.

What We Did

Upon considering the desired goal for the project, no single data collection method alone could achieve the desired result. Hence, we developed a methodology that included considering multiple perspectives and used multiple data-gathering techniques to best understand the educational needs regarding nutritional support therapy in NICUs.

Our mixed-methods approach can be described in three phases:

1. After reviewing existing literature and guidelines, we collaborated with a clinical expert (NICU physician) to develop a list of competencies for managing nutritional support therapy in NICUs. These competencies covered the knowledge and skills required to care for a premature infant from their arrival through transition to the community based pediatrician. Examples of competencies developed for this project include “assess the nutritional needs of the preterm infant, including nutrients, fluid, and energy needs,” and “monitor feedings for intolerance including necrotizing enterocolitis.”
2. Using the competencies as the foundation, we developed a semistructured interview guide designed to identify the gaps between current and best practices, barriers to best care and challenges experienced when providing nutritional support therapy to premature infants. Open-ended questions were developed for each competency and reviewed by a clinical expert. Using this guide, we interviewed physicians, nurses, and dietitians working in NICUs in both academic and community hospitals. These interviews shed light on the challenges regarding nutritional support therapy currently faced by professionals in the field, guidelines being used (or not used), and practice gaps. Additionally, interviews were used to refine and validate the clinical competencies. The qualitative data also highlighted areas where more detailed information was needed (eg, the use of protocols). Given the size of the obtained sample, we sought to gather additional data to validate our qualitative findings.
3. Combining the competencies with the results from the semistructured interviews, we developed and administered an online quantitative survey that was designed to affirm and quantify our findings from the qualitative interviews and provide further understanding of practice gaps and challenges.

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This assessment also included items measuring individuals' readiness to change the way they provide nutritional support therapy to premature infants. Administered to physicians, nurses, and dietitians working in NICUs throughout the United States, results from the quantitative survey also shed light on practice differences among professions.

The survey results yielded rich data that allowed us to identify practice gaps and how they might be experienced differently among various professionals. The results also showed that readiness to change varied by profession; for example, nurses were comparatively open to education and changing their practice while dietitians and physicians reported lower readiness to change. Combining findings from multiple sources and multiple perspectives, we were able to develop a list of specific educational recommendations that addressed individual, interprofessional and systemic needs.

What We Learned

Too often, needs assessments are conducted hurriedly, using single data sources. However, to develop educational interventions that address an individual's unique needs, multidimensional needs assessment data become increasingly important. Additionally, with the growing awareness of the importance of educating the clinical team, needs assessments without an interprofessional component will fall short. This methodology provided more targeted educational recommendations and focused on improving outcomes for premature infants.

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