Eliminating Disparities in Mother's Milk Feeding in the Neonatal Intensive Care Unit

For infants born very premature (<32 completed weeks of gestation) mother’s milk feedings (direct breastfeeding and/or pumped human milk from the infant’s own mother) during the neonatal intensive care unit (NICU) hospitalization reduce the incidence and severity of prematurity-associated morbidities and their associated costs.1,4 Furthermore, evidence is accumulating that suggests exposure to mother’s milk feedings during the NICU hospitalization improves long-term health outcomes including neurodevelopment in this vulnerable population.5-7 The mechanisms of protection afforded by mother’s milk include immunologic, antimicrobial, anti-inflammatory, antioxidant, epigenetic, growth-promoting, and gut-colonizing functions, many of which are present in greater concentrations in the mother’s milk of mothers who give birth prematurely. The protection from morbidities and their associated costs is a dose–response relationship, with the greatest doses of mother’s milk providing the greatest protection.8

Despite this evidence, achieving high-dose mother’s milk feeding throughout the NICU hospitalization is challenging for mothers and NICU care providers. Mothers are dependent on the use of a breast pump to initiate and maintain lactation, often for an extended period of time while they are under the extraordinary stress of having an infant born very premature in the NICU.9 In addition, mothers frequently have health conditions such as pregnancy-induced hypertension that increase the risk of lactation problems. Thus, NICU care providers need specialized knowledge about breast pump dependency; the variability in the bioactive, nutritional, and caloric content of mother’s milk; and the nuances of collecting, storing, and administering mother’s milk to preserve the biological components in mother’s milk that are associated with improved outcomes.8

During the last 3 decades, researchers systematically have addressed the biological and mechanical barriers to mother’s milk feedings in this population, and these findings have led to the development of best practices for mother’s milk feeding that have been widely publicized, promoted, and translated to routine clinical care in some NICUs.10-12 Although many of the biological and mechanical barriers have been addressed, a remaining challenge has been the elimination of maternal educational, economic, and racial disparities in mother’s milk provision. Women who are educationally and economically disadvantaged and those from some racial minority groups are less likely to provide mother’s milk than their more advantaged counterparts.11

Recent studies have demonstrated that innovative clinical programs can reduce disparities in the provision of mother’s milk for economically disadvantaged and racial minority women.1,13 This volume of The Journal contains an original research report by Herich et al14 that further extends this research, documenting the elimination of educational disparities in the initiation of mother’s milk feeding the NICU. Of particular note is that this research reports the outcomes for a population-based cohort from NICUs in 3 regions of Italy, demonstrating that disparities can be reduced in diverse clinical settings in different geographic regions. Interventions in these exemplary programs include providing consistent messaging about the importance of mother’s milk for infants born very premature,15,16 access to NICU-specific lactation expertise,16,17 and providing culturally adapted lactation support services via the use of NICU based-breastfeeding peer counselors.13,18

A unique and highly significant finding of the study by Herich et al14 is the interaction between maternal education and early provision of mother’s milk. Although the investigators found a significant positive impact of early exclusive mother’s milk feedings on the provision of mother’s milk through to NICU discharge, this effect was magnified greatly for mothers with the lowest educational levels. The translational implications of these findings are significant and provide potential interventions to combat the negative impact of limited maternal education.

Although the elimination of educational, economic, and racial disparities in the initiation of mother’s milk feeding during the critical period after birth is a significant accomplishment, in their research, Herich et al14 reported that education was associated with disparities in the continued provision of mother’s milk at the time of NICU discharge. A similar pattern was reported by researchers who demonstrated the elimination of racial and economic disparities in the initiation of mother’s milk feedings. Thus, this body of research suggests that the social determinants of health can be eliminated in the initiation of mother’s milk feedings for infants born very premature, but these determinants continue to be associated with disparities in the continued provision of mother’s milk through to NICU discharge, even when the mothers’ goals were to continue providing their milk.14,15,19-22

Although great progress has been made in the elimination of disparities in the initiation of mother’s milk in the NICU, the continued provision of mother’s milk feeding past the...
critical period remains a challenge for many mothers and NICUs, and merits continued focus and the prioritization of research dollars. Although this task may seem daunting, not that long ago there were similar disparities in the initiation of mother’s milk feedings in the NICU. These disparities were reduced by targeted clinical and research programs, which now must be adapted to address the disparities found in the continued provision of mother’s milk through to NICU discharge for mothers of infants born very premature.

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References