P1-45: Predicting Feeding Success in Preterm Infants

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Presentation Preference: Research Abstract

Abstract Categories:
Research Interest Groups (RIGs): Biobehavioral
Thematic Areas: Perinatal/Neonatal/Infancy

Abstract:
Introduction: Research has provided important information about initiating and progressing oral feedings for preterm infants. However, questions remain about how to know if a feeding will be
successful, information important for developing interventions. The purpose of this analysis was to determine if feeding success could be predicted by early-in-the feeding behaviors.

**Method(s):** Participants were 95 preterm infants; 48 were male and 71% were Black. The mean birth weight was 1290 grams; the mean birth post-menstrual age was 29.3 weeks. In this non-experimental study, infants were observed once a day at an oral (nipple) feeding for 14 days starting with the first oral feeding. The proportion of prescribed volume consumed (PVC) was the outcome variable. Predictors were pre-feeding behavior state and heart, respiratory, and oxygen saturation rates, sucking activity, proficiency at 5 minutes of feeding, and speed of consumption. IRB approval and parental informed written consent was obtained.

**Results:** Data from 930 feedings were used; in 36% the PVC was 100% (M=61%, SD=35%). Birth weight, morbidity, and maturation were significantly related to PVC. PVC was also significantly related to feeding attempts and previous feeding success. PVC was weakly related to pre-feeding behavior state and heart rate but not with respiration or oxygen saturation. During feeding vital signs were not related to PVC; behavior state was weakly and sucking activity was moderately related. Proficiency at 5 minutes and speed of consumption were highly related to PVC, with proficiency being most strongly related (r=.81) and predicting 66% of the variance in PVC. When proficiency at 5 minutes was <30% of prescribed volume (n=361), only 14 feedings were completed (4%). When proficiency was >31% (n=569), 323 feedings were completed (57%).

**Discussion & Conclusions:** Research has shown that increased oral feeding experience aids the development of feeding skills and the achievement of full oral feeding. However, concern about tolerance of feeding activity hinders the adoption of experience-based feeding protocols. This analysis supports an intervention based on intake at 5 minutes to assist preterm infants as they progress in oral feedings while still providing them with important experience at feeding.

**Abstract History:**

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