

Interventions for Neonates at High Risk of Feeding Difficulties: A Literature Review

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Introduction

There is a high incidence of feeding problems in the neonatal population, with certain groups being particularly at risk. Most neonatal feeding studies exclude infants with 'confounding' conditions, and infants at highest risk of feeding and swallowing problems are understudied. This review focuses on feeding interventions evaluated with infants at high risk of feeding difficulties.

Methods

A database search was carried out using EMBASE, CINAHL, Medline, AMED, and PSYCInfo; using keywords related to neonates, intervention/therapeutics, and feeding

Inclusion criteria	Exclusion criteria
Peer-reviewed journal articles	Review articles not including original research
Studies investigating the outcomes of a feeding intervention	No functional oral feeding outcomes investigated
Inclusion of infants with conditions associated with feeding problems (e.g. neurological, cardiac, respiratory, craniofacial, gastrointestinal)	
Published between 2012-2018	
English language	

Results

20 papers were identified and 14 were excluded. The remaining 6 papers were quantitative in nature, with one also including a qualitative component. The papers included were appraised using relevant tools.

Study	Design	Results	Methodological issues
Preterms			
None of these studies specifically excluded comorbidities associated with feeding problems; however, information on the number of infants with comorbidities or the severity or type of comorbidities was not reported			
Liu et al. (2013)	Case-control study of oral motor intervention	Two of the outcome measures were significantly different between the groups; however, only one (length of hospital stay) had clear clinical relevance	- Method of retrospective data collection for controls was not described and risk of inaccurate historic data - Risk of bias in selection of controls - High-risk infants not specifically investigated
Loewy et al. (2013)	Cross-over study of three music therapies	Two outcomes were directly related to feeding (calorie intake and feeding behaviour). Data for these outcomes was not reported	- Many study details and findings were unreported - High-risk infants not specifically investigated
Chorna et al. (2014)	RCT of suck activated mother's voice device	Intervention group obtained full oral feeding 7 days earlier than controls.	- No sham treatment, unclear if sucking + mother's voice or sucking alone was responsible for the positive outcomes - High-risk infants not specifically investigated
Neurological impairment			
Harding et al. (2012)	Case report of non-nutritive sucking intervention	The infant was eventually successful in achieving full oral feeding. Family reported increased confidence and reduced anxiety.	- A single case cannot determine if the intervention or natural recovery and development facilitated this outcome
Congenital heart defects			
Coker-Bolt et al. (2013)	Quasi-experimental study of an oral motor stimulation	Intervention group had a significantly shorter hospital stay than controls	- Small sample size - Historic controls: data may be unreliable, risk of selection bias, other uncontrolled factors may impact on results
Indramohan et al. (2017)	Quasi-experimental study of an oral motor stimulation	There were no statistically significant differences between the groups	- Small sample size - Historic controls: data may be unreliable, risk of selection bias, other uncontrolled factors may impact on results

Conclusions

Current research is inadequate to guide the clinician in preventing and treating feeding and swallowing problems in high-risk neonates. High-quality studies, including qualitative components, are needed to improve understanding of optimal care and interventions for this group.