Review of Current Recommendations on Oral Feeding in the Neonatal Population

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BACKGROUND

Feeding preterm and medically fragile infants is complex due to:

- immature development of reflexes for safe feeding ([8,9,16,20]),
- the aerobic effort of feeding ([14,16,19,21]), and
- superimposing the aforementioned risk factors on infants with a baseline of increased cardiorespiratory work among other individual medical and developmental concerns ([19,20,21,27]).

Each of the above serve to increase the risk for incoordination, poor oral feeding, aspiration, and negative sequelae. Oral feeding goals are typically also being address at the same time as other goals including but not limited to weight gain, feeding tolerance, and oxygen weaning.

Furthermore, research tells us that concerns surrounding feeding do not end after the neonatal intensive care unit (NICU) stay. Feeding difficulties are highly prevalent in children born premature regardless of degree of prematurity; approximately 42 % of children born prematurely will present with problematic feeding within the first 4 years of life ([26]), but can be as high at 80% in developmentally delayed infants/children, a category that included those born prematurely ([5]).

PURPOSE

Feeding serves as a critical metric for an infant to achieve discharge readiness in the NICU. Updates in the areas of developmental feeding research, best practices in NICU standards of care, and bottle feeding/flow rate studies have led to significant updates in recommended practices surrounding infant feeding in the NICU. The purpose of this project was to complete a review of current recommendations and literature for information enhancement and in support of evidence based practice.

METHODS

Reviewed recommendations, as made available, by the national organizations of leading stakeholders on their websites and available publications including: American Academy of Pediatrics (AAP), National Association of Neonatal Nurses (NANN), National Association of Neonatal Therapists (NANT), International Lactation Consultant Association (ILCA), La Leche League, European Foundation for the Care of Newborn Infants (EFCNI).

Completed a literature review including over 30 articles and publications related to infant development, feeding, interventions in the neonatal population.

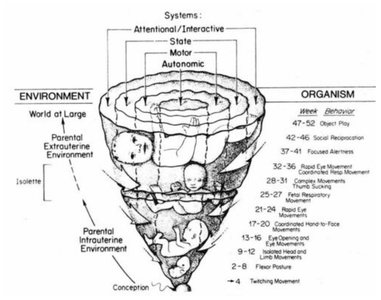
RESULTS

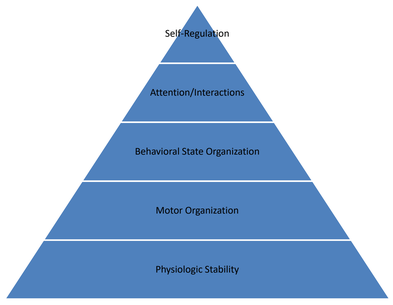
Recommendations identified:

- Interdisciplinary support of neonatal therapists ([7, 10, 12, 31, 38])
- Provision of pre-feeding interventions ([3, 11, 12, 31])
- Cue-based / co-regulated feeding ([12, 34,35,36,39,40])
- Evaluation by clinical staff with specialization in oral feeding and swallowing ([4,7,12,34,38])
- Lactation support and clinical decision making that supports breastfeeding ([11,12,38])
- Specific feeding interventions: pacing ([17,18,34]), positioning ([12,30,34]), reduced flow rates ([5, 14, 22, 27, 34])

Notes: This is a summarized list, not exhaustive, grouped by the presenters, based on high frequency and focus within the source documents. Also, not included in this literature review is the copyrighted program of Infant Driven Feeding, which would provide further support under the category of cue-based feeding.

Synactive Theory of Development ([1,2])





Early Gestational Development for Feeding (approx.):

- 4 wks: Early tongue bud forms
- 5 wks: Nasal pits are present
- 7 wks: Perioral tactile sensitivity
- 8 wks: Mouth, tongue, and nasal structures develop
- 20 wks: Taste buds begin emerging
- 26 wks: Early rooting
- 26-28 wks: Taste response to bitter
- 32 wks: Suck pattern is irregular without swallow integration
- 35 wks: differentiate sweet
- 35-40 wks: SSB (suck, swallow, breathe) becomes rhythmic
- 40-42 wks: SSB matures approximating 1:1:1

*Adapted from various sources [8, 16, 21, 22, 24, 31, 32]

CONCLUSION

This poster presents a review of clinical research and recommendations for supporting infant feeding in the preterm and medically fragile population.

Significant findings regarding infant readiness include prioritization of pre-feeding interventions, strategies to support infant readiness, understanding developmental maturity, and that preterm infants are delayed beyond their term equivalents to achieving mature feeding patterns ([16, 21]).

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PATHWAY DESIGNATED