

Feeding practises for very low birth weight infants in neonatal units in Nigeria

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Introduction

Neonatal mortality accounts for 46% of under 5 mortality and this proportion is rising. Most neonatal deaths occur in sub-Saharan Africa and South Asia, particularly among low birth weight (LBW) infants (birth weight < 2500g) who comprise of preterm and small for gestational age infants. Gut structure and function are immature particularly in the very low birth weight (vLBW) infants (weight < 1500g). This renders early nutrition a challenge, although early nutrition has the potential to avert adverse outcomes such as sepsis and impaired growth. Data on current feeding practices and associated neonatal outcomes is pertinent for the development of context-relevant interventions. The aim of this survey was to describe current in-patient feeding practices for vLBW infants among paediatricians in Nigeria as a basis for the design of future feeding intervention studies in this vulnerable group of infants.

Methods

The survey and its justification were outlined to a group of 60 paediatricians delivering neonatal care from across Nigeria who were attending the Neonatal Nutrition Network project workshop that took place in Ibadan, Nigeria, in March 2018 (Figure 1). From May-August 2018, a feeding survey was sent to senior paediatricians providing care to hospitalised vLBW infants in Nigeria. Data analysis was done using Stata v15.0. Descriptive statistics were used to analyse the data with proportions for categorical data and means (standard deviations) and medians (interquartile ranges) for continuous data.



Figure 1: Paediatricians from across Nigeria attending the workshop in Ibadan, Nigeria

Results

Senior paediatricians from 37 neonatal units (NNUs) responded to the survey; 29 (78%) were based in tertiary and 8 (22%) in secondary level units. Only 17 (49%) of NNUs had written feeding guidelines for vLBW infants. Breastmilk was universally the first choice of feed. Enteral feeds were introduced early (median 24 hours, IQR: 24,48). (Table 1) However, the volume of breast milk used at initiation of feeds varied (median 10ml/kg/day, range 5-40ml/kg/day).

Time (hours post delivery)	Frequency (%) N=35
0	2 (6)
2	2 (6)
3	1 (3)
4	1 (3)
5	1 (3)
24	13 (37)
48	9 (25)
72	6 (17)

Table 1: Age at initiation of enteral feeds

There was also variation in the volume of milk used for advancement of feeds (median 20ml/kg/day, range 10-40ml/kg/day). Less than half of the units (18, 48%) had storage facilities for maternal expressed breastmilk. None of the units used donor breast milk, although 12 (32%) used surrogate mothers as a source of breastmilk when mother's milk was inadequate or not accessible. In addition, most NNUs also used formula milk to top-up breast milk when this is deemed insufficient (23, 78%). (Table 2)

Volume of feed (ml/kg/day)	Frequency (%) N=36
0	1 (3)
10	13 (36)
15	1 (3)
20	17 (47)
25	1 (3)
30	2 (5)
40	1 (3)

Table 2: Volume of feed used during advancement of feeds

The reported number of days to establishment of full enteral feeds also varied between paediatricians at the different NNUs (median 10 days, range 3-20). The use of probiotics, breast milk fortifier and buccal colostrum was uncommon.

Conclusion

There was marked variation in feeding practices between NNUs in Nigeria. These data have enabled us to identify research priorities and design feasibility studies for feeding interventions aiming to improve the survival, growth and development of vLBW infants in resource poor settings.

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