

I have no financial relationships
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Determinants of Time to Full Enteral Feeds amongst Preterm and VLBW Infants in sub-Saharan Africa

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On behalf of the Neonatal Nutrition Network (NeoNuNet)

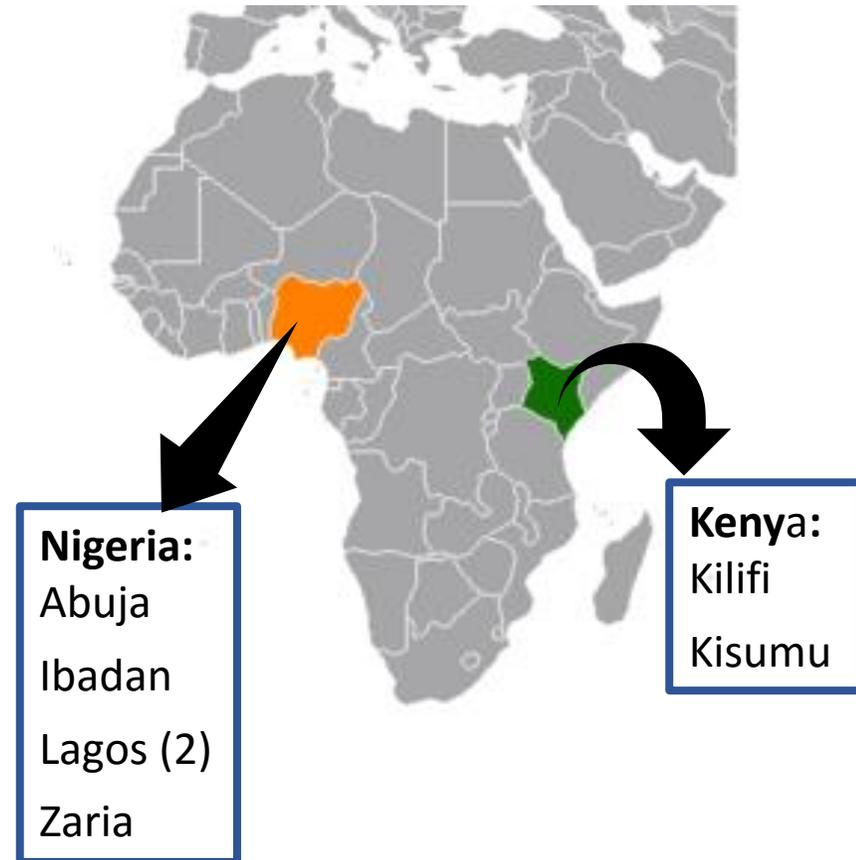


Background and Aim

- Dearth of data on preterm feeding practices in neonatal units across sub-Saharan Africa
- This analysis sought to
 - describe a cohort of preterm and VLBW infants
 - describe their feeding practices
 - determine the time to full enteral feeds (tFEF)
 - determine the factors associated with the attainment of full enteral feeds

NeoNuNet

- Set up in collaboration with the Liverpool School of Tropical Medicine (LSTM)
- Aim of the network was to develop an anonymised database of all newborn admissions that would
 - provide a platform to compare clinical practices and outcomes
 - form a basis for further research into nutritional interventions that could improve clinical and neurodevelopmental outcomes, particularly among very-low-birthweight (VLBW) infants





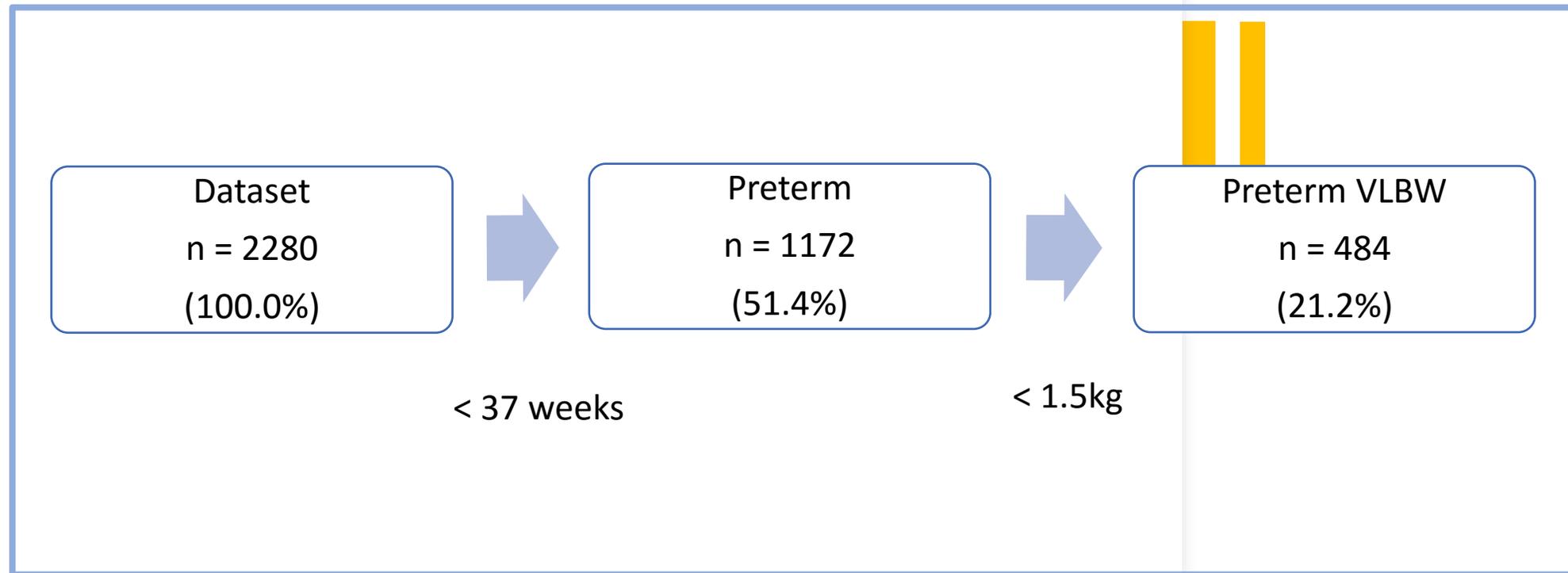
Methods

- Multi-centred prospective observational study
 - All newborns (< 48 hour) admitted over a 6-month study period recruited (Sept 2018 – Apr 2019)
 - No exclusion criteria
 - Data collected on pregnancy, birth and neonatal characteristics; feeding practices; common morbidities and outcomes
 - Anonymised individual data uploaded into REDCap database
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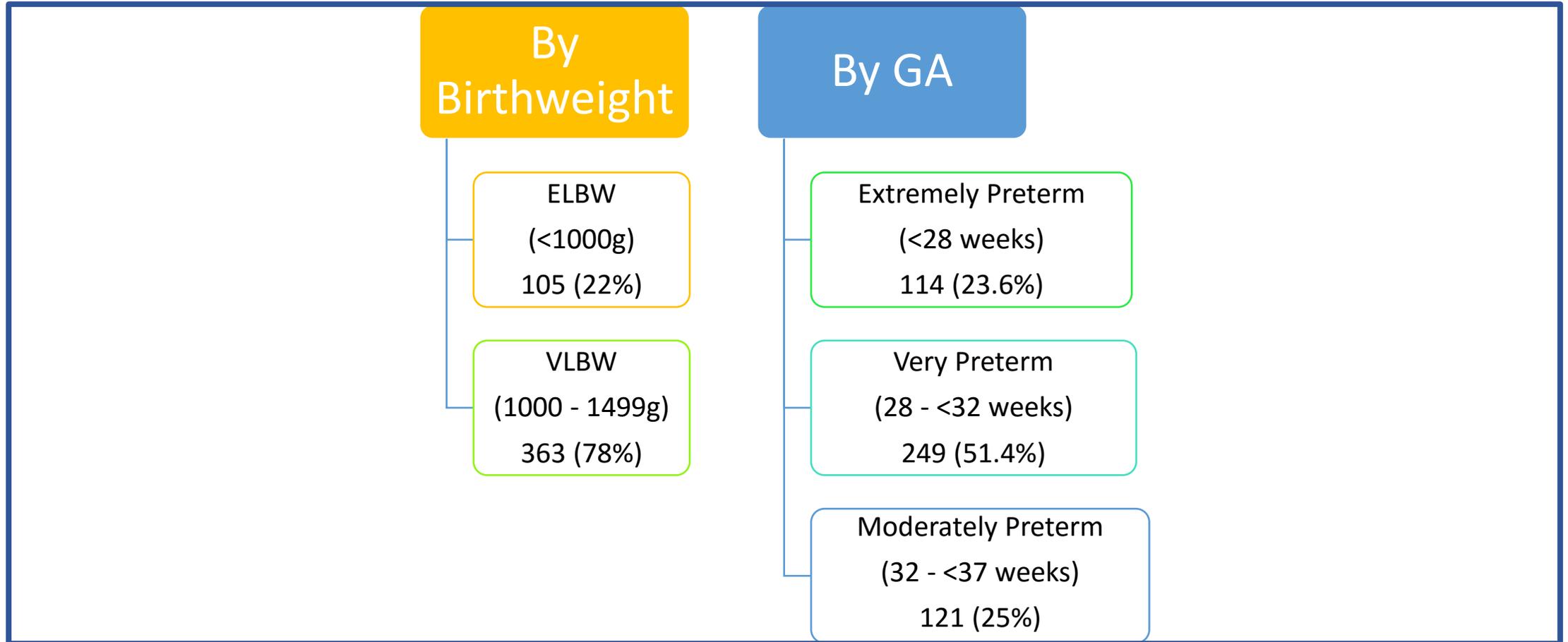
Definitions

- Preterm: <37 completed weeks
- VLBW: birthweight <1.5kg (including <1kg)
- Anthropometry was compared to INTERGROWTH standards for age and sex
 - SGA: birthweight < 10th centile
 - AGA: birthweight ≥ 10th centile (including ≥ 90th centile)
 - Stunting: length < 3rd centile
 - Wasting: weight/length ratio < 3rd centile
- FEF was defined as 120ml/kg/day
- The diagnoses of common morbidities (asphyxia, respiratory morbidities, sepsis and abdominal morbidities) based on clinical, laboratory and radiological criteria

NeoNuNet Study Population



Classification by Birthweight and GA



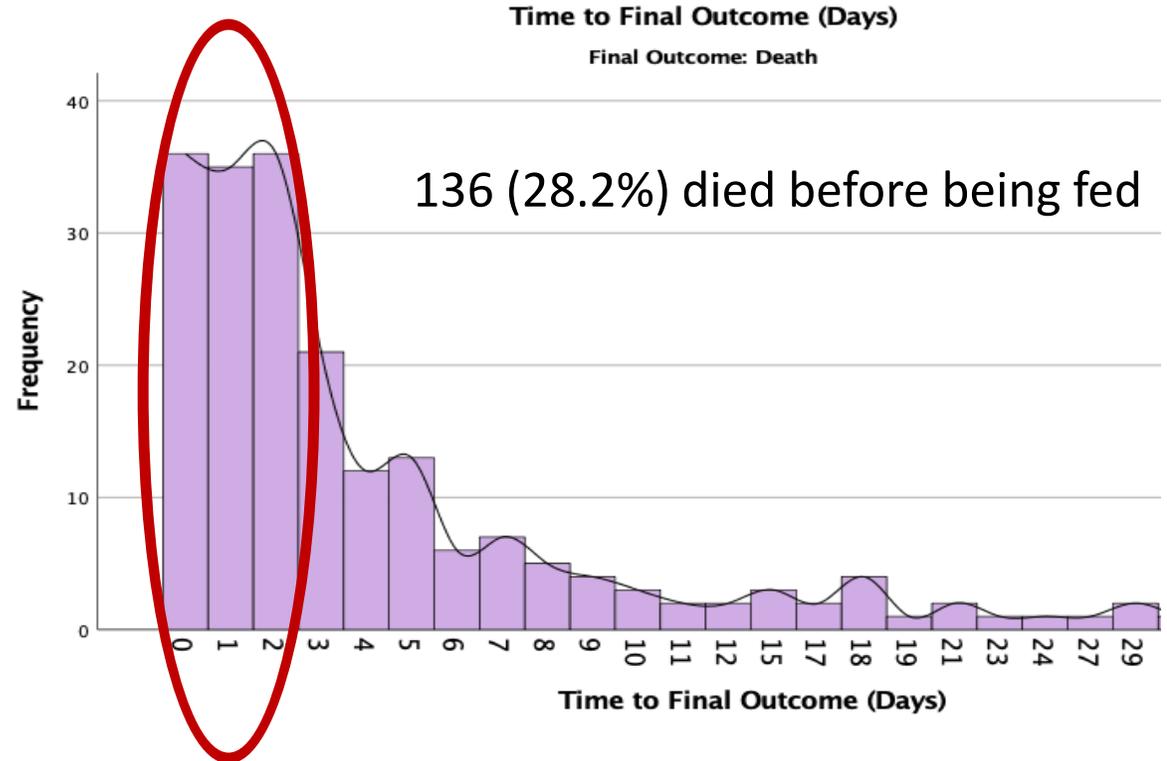
Classification by Appropriateness of Growth (INTERGROWTH-21)



Total 393; **AGA** 259 (65.9%); **SGA** 117 (29.7%); **Stunted** 73 (18.5%); **Wasted** 49 (12.4%)

Feeding Practices: When

- Median time of 1st feed: 46hrs (27, 72)



	First Feed (%)	Feed During Admission (%)
Mother's Own Milk	78.0	87.9
Preterm Formula	19.6	29.2
Standard Infant Formula	2.3	3.8
Total	99.9	120.9

Feeding Practices: What?

- 76.1% were exclusively breastfed
- 58 (18%) babies had mixed feeds

Feeding Practices: How?



Tube feeding

72%



Cup/Cup & Spoon

58.4%



Breastfeeding

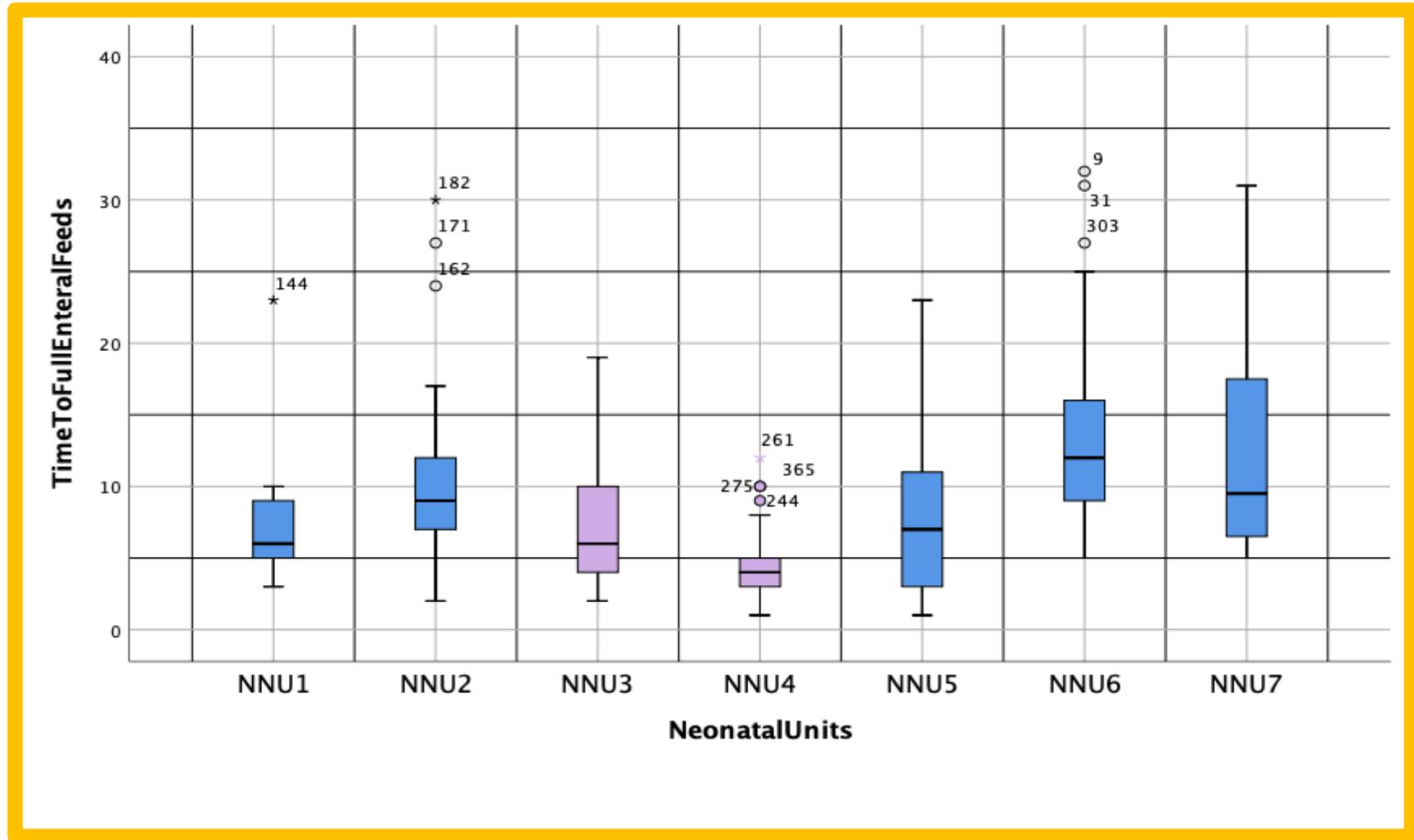
48.7%



Feeding Practices: Outcomes

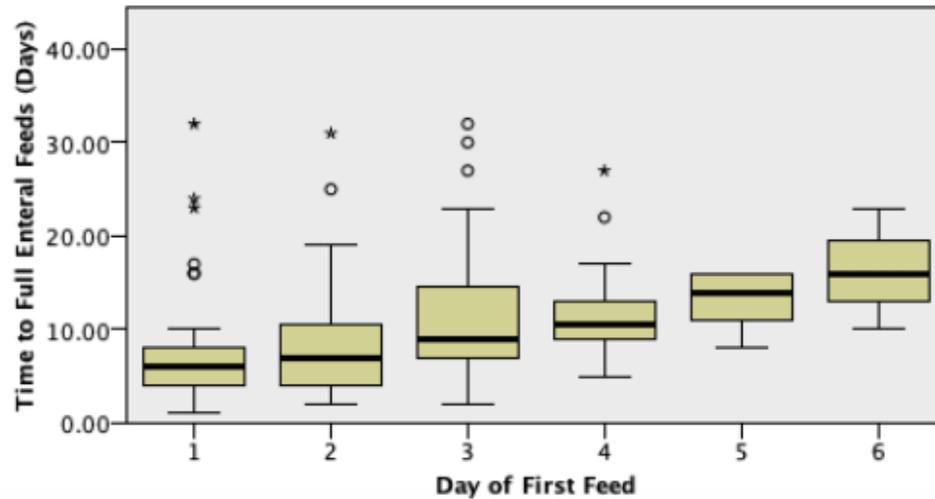
- Time to Full Enteral Feeds: 8 days (4.5, 12)
- Time to regain birthweight: 12 days (7, 16)
- Length of hospital stay: 27 days (20, 38.5)
- Morbidities:
 - Perinatal Asphyxia: 40 (8.3%)
 - Respiratory Morbidities 255 (52.7%)
 - Sepsis 217 (44.8%)
 - NEC 22 (4.5%)

Time to Full Enteral Feeds



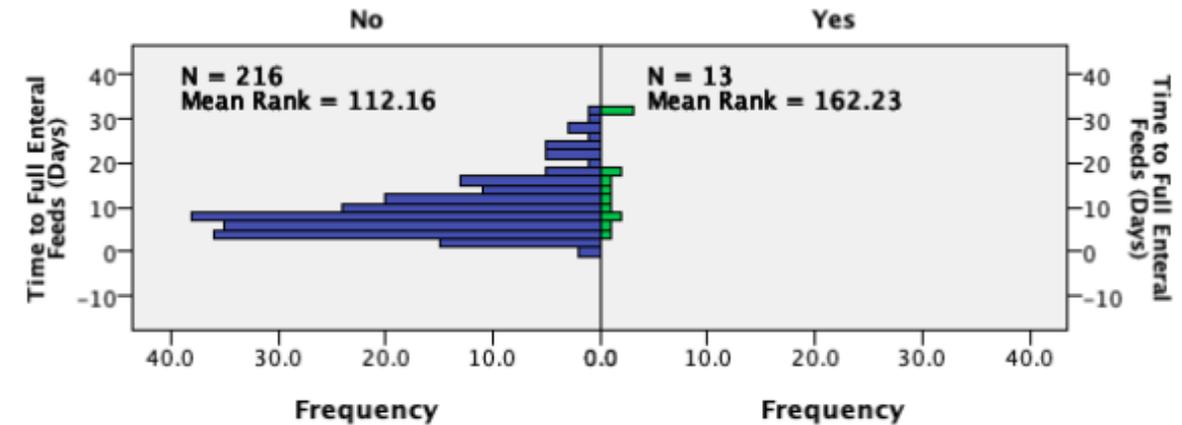
Factors significantly associated with tFEF (on univariate analysis): need for BMV, respiratory distress, day of 1st feed and NEC

Independent-Samples Kruskal-Wallis Test

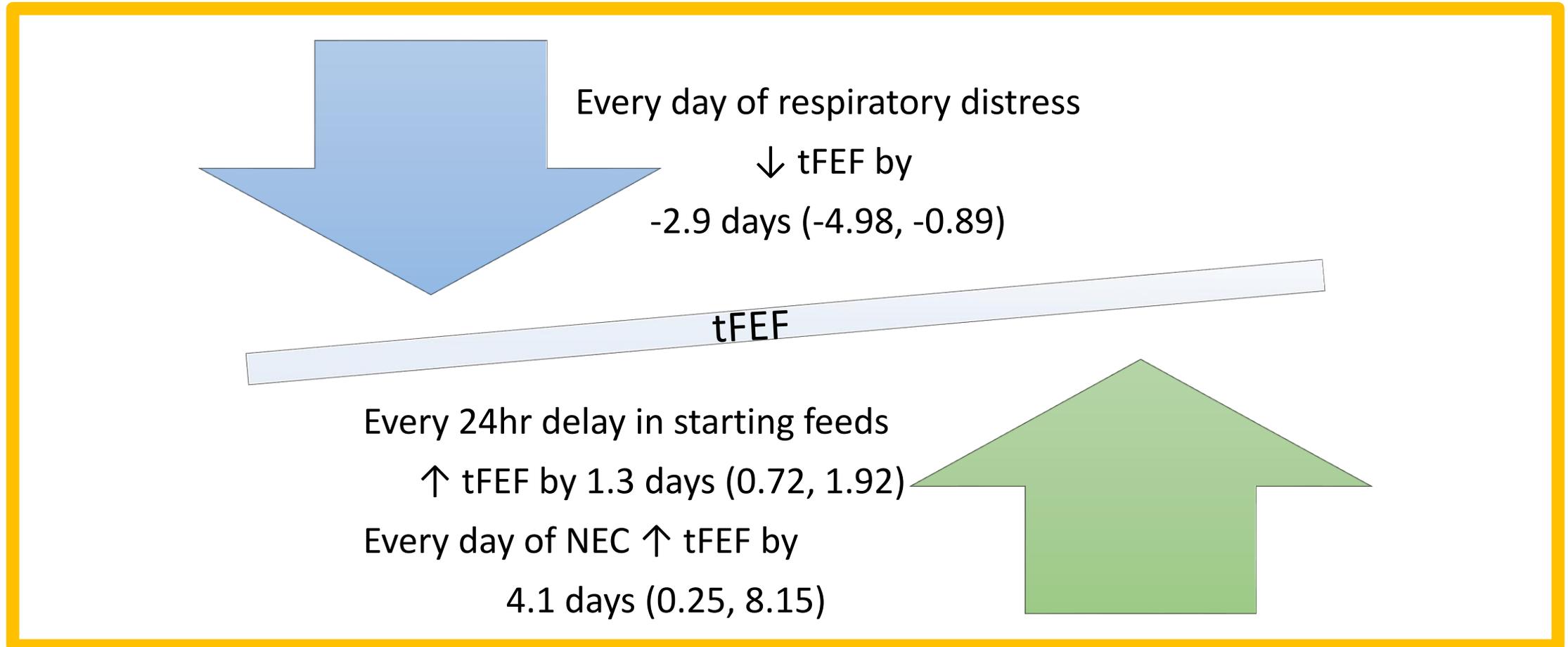


Independent-Samples Mann-Whitney U Test

Common Morbidities: Necrotising Enterocolitis



The Multiple Linear Regression Model translates to:



In Summary

- Prevalence of SGA is 29% - high
- Initiating enteral feeds earlier could improve nutritional outcomes

But ...

- The development of NEC remains a modifying factor