



The Tiny Baby Initiative: A QI Project to Improve Neonatal Outcomes

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the Tiny Baby Committee

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Rationale

Increased numbers of infants born <29 weeks GA and/or <1000g from 26 to 40 in the past 5 years

Surveillance data from the CNN indicated rising incidences of BPD and ROP

Methods

Data for two cohorts of infants born <29 weeks GA or with BW <1000g 2018- 2019 (Cohort 1) and 2019 - 2020 (Cohort 2) admitted to one Level 3 NICU that offers single room care

“The Tiny Baby Initiative” implemented:

Comprehensive guidelines for respiratory support, nutrition, developmentally sensitive care, neuroprotection, family involvement and medication use

Clinically significant outcomes were studied (BPD = oxygen or respiratory support at 36 weeks GA; ROP = Stage 3 or requiring treatment; Severe Neurologic Injury (NI) = Grade 3 or above or PVL).

Results

GA, BW and percent male were similar between the two cohorts (median GA – 26+3 weeks GA; mean BW 813g (cohort 1), 839g (cohort 2); Cohort 1 = 57%; Cohort 2 = 55%).

The number of infants in each GA strata was similar.

Cohort	Death (% _{,n})	BPD (% _{,n})	ROP (% _{,n})	Severe NI (% _{,n})	Death or BPD (% _{,n})	Death or Severe NI (% _{,n})
1 (n=37)	8.1 (3)	60.0 (22)	24.0 (9)	8.1 (3)	67.6 (25)	16.2 (6)
2 (n=38)	13.1 (5)	45.9 (17)	17.6 (6)	5.3 (2)	57.9 (22)	18.4 (7)

Mortality in the 23 weeks GA stratum increased in Cohort 2 (Cohort 1 = 2/6, 33%; Cohort 2 =4/5, 80%) while survival was very high in all other strata across the two cohorts (97.3% Cohort 1 vs 97.4% Cohort 2)

Conclusion/ Discussion

Despite a slightly higher mortality in the tiniest of infants admitted to our Level 3 NICU, short-term clinical outcomes were greatly improved.

The implementation of a targeted care strategy for extremely premature infants has been shown to improve short-, medium- and long-term outcomes (IOWA Ref)

PASTE IN PICS OF OUR ORDER SET?

Future Directions

The next steps in this QI project are:

Modifying ventilation strategies

Improving parent involvement/information

Addressing skin care policies and procedures

Addressing oxygen saturation targets and monitor alarms

Continuing to address ventilator associated pneumonia (VAP) prevention measures

Implementing light protection for TPN solutions

Use of histograms

Examining 18 month neurodevelopmental outcomes

Contact Information

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