Two-hourly vs Three-hourly Feeding in Very Low Birthweight Neonates: A Randomized Controlled Trial. (1)

Indian Pediatr. 2021 Apr 15;58(4):320-324.

Background : There is no consensus regarding the feeding interval in very low birth weight (VLBW) babies. If 2-hourly feeding schedule is feasible without increasing harm to the neonate, the nursing time consumed in the feeding of VLBW babies can be reduced.

Objective*:* To study whether 3-hourly feeding is non-inferior to 2-hourly feeding with respect to time to reach full feeds in VLBW neonates.

Methods: This open-label randomized controlled trial was conducted from January, 2018 to March, 2019 in a level III neonatal care unit. All stable inborn neonates weighing between 1000 g and 1500 g, in whom feed could be started within 96 hours of life, were included in the study. The primary outcome was to compare the time to achieve full enteral feed between the two groups of VLBW infants receiving 2-hourly and 3-hourly feed. The secondary objectives were to compare the incidence of hypoglycemia, feed intolerance and NEC stage 2 or 3 between the two groups.

Full enteral feed was defined as 150 mL/kg/day of enteral feeds, and hypoglycemia was defined as blood glucose concentration <45mg/dL. Feed intolerance was defined as abdominal distension (abdominal girth >2 cm), with blood or bile stained aspirates or vomiting or pre-feed gastric residual volume more than 50% of feed volume; the latter checked only once feeds reached 5 mL/kg volume. NEC was defined as per the modified Bells staging.

The standard group received enteral feed every 2 hours and the experimental group at 3-hourly intervals.Feeding was initiated and increased by 30 mL/kg/day. Intravenous fluid was given till enteral feed reached a volume of 120 mL/kg/day. Babies were fed through orogastric tube using the gravity method or with the help of cup/*paladi*, as per gestational maturity.

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Pediatric Evidence And Research Learning Snippet

2 hourly versus 3 hourly feeding schedule in very low birth weight neonates. Which is better?

Results: 175 neonates were enrolled in both groups. The baseline characteristics were comparable. Range of time for attaining full enteral feeds was 3-15 days. Eleven neonates were outliers and reached full enteral feeds between 10-15 days of life. There were no significant differences in incidence of hypoglycaemia, feed intolerance and NEC in both the groups.

Conclusion:Three hourly feeding does not increase the risk of hypoglycemia, necrotizing enterocolitis or feed intolerance.

Key message: 3 hourly bolus feeding may be considered as a safe alternative schedule for VLBW neonates.

Similar evidence: Razak et al (2) carried out systematic review and meta-analysis in 2019, including seven RCTs and three observational studies comprising 952 babies and found low-quality evidence suggesting feeding 3-hourly is comparable to 2-hourly feeding in VLBW infants. However, extremely low-birth-weight infants reach full enteral feeds earlier when fed 2-hourly compared with 3-hourly.

EXPERT COMMENT

“A 3-hour feeding cycle not only reduces nursing workload but also reduces handling of the VLBW neonate which might improve neuro development outcomes and simultaneously also reduce incidence of infections in the NICU.”

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With warm regards,

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Reference

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2. Razak A. Two-Hourly versus Three-Hourly Feeding in Very Low-Birth-Weight Infants: A Systematic Review and Meta-Analysis. Am J Perinatol. 2020 Jul;37(9):898-906.