

## Effect of feeding schedule on time to reach full feeds in neonates weighing 500 to 1500 grams: A randomized trial

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**Aim:** To compare the effect of 3-hourly (3-h) versus 2-hourly (2-h) feeding schedules on time to reach full feeds in neonates weighing less than 1500 grams. **Materials & Methods:** This was a randomized trial conducted in a level 3 neonatal intensive care unit, Surya Children's Hospital, Mumbai, India. We enrolled 120 preterm neonates with birth weights of 501 to 1500 g. The neonates were divided into 2 strata based on birth weight: 501 to 1000 g and 1001 to 1500 g. The neonates were randomized into 2 orogastric feeding schedules: 8 or 12 feeds (3-h or 2-h schedules, depending upon randomization) and a uniform feeding protocol was followed. Analysis was performed using the intention-to-treat principle. Categorical variables were compared using the Chi-square test. Continuous measures between groups were compared using 2-sample t test or Mann Whitney U test as appropriate. Data were analyzed using IBM SPSS version 21 software.  $P < 0.05$  was considered significant. **Primary outcome measures** were time (in days) to reach full feeds (defined as tolerance of 150 mL/kg/d of feeds for at least 48 h). **Secondary outcome measures** were time (in days) to attain birth weight; time (in days) to discharge; weight, length and head circumference at discharge; incidence of feed intolerance, Necrotizing Enterocolitis (NEC), intravascular hemorrhage (IVH), screen-positive sepsis, culture-positive sepsis, hypoglycemia, apnea, jaundice and Retinopathy of Prematurity (ROP), duration of total Parental Nutrition (TPN) and nursing and mortality. **Results:** A total of 215 neonates were assessed for eligibility of which 95 were excluded. Hence, 120 neonates were enrolled in the trial. There was no significant difference in time (in days) to reach full feeds in the 2-h versus 3-h groups ( $9.53 \pm 4.26$  v/s  $9.85 \pm 5.48$ ;  $P = 0.73$ ). There was no significant difference between the 2 groups in most of the secondary outcomes. However the total time spent per day in feeding was significantly lesser in the 3-h feeding schedule group ( $P = 0.04$ ). Subgroup analysis revealed that among the neonates in the lower birth weight strata (501 to 1000 gms), those fed 2 hourly reached full feeds earlier compared with those fed 3-hourly (2-h group:  $11.24 \pm 2.88$  d vs. 3-h group:  $14.14 \pm 4.98$  d;  $P = 0.041$ ). **Conclusions:** There was no significant difference in time to reach full feeds in all the neonates, irrespective of whether they were fed 2-h or 3-h. However, neonates  $< 1000$  g reached full feeds earlier when fed more frequently (2-h feeding schedule).

Extremely low birth weight (ELBW) preterm children are taken care of each 2 hourly (2H) or 3 hourly (3H), yet there isn't adequate proof to decide the best taking care of timetable. The investigation destinations were to think about the impacts of 2H or 3H taking care of plan for neonates weighing 500 to 1500g during birth, on the rate of apnea, Necrotizing Enterocolitis (NEC), hypoglycemia, and time to achieve full feeds. Preterm,

extremely low birth weight (ELBW) neonates are frequently taken care of either irregularly every 2–3 hourly (2H–3H) or constantly by an implantation siphon, yet there isn't a lot of proof to know the best taking care of timetable. By expanding the stretch between takes care of, from 2H to 3H, it might dodge relentless hyperemia which is in any case found in prevalent mesenteric conduit, when taken care of hourly, possibly prompting incidence of feed intolerance. It additionally may conceivably decrease huge feed buildup in stomach as gastric exhausting incidence of feed intolerance time is longer in neonates. While 2H taking care of may make lesser distension of stomach due lesser volume and thus lesser gastroesophageal reflux. Littler volume feeds could likewise mean little supreme volume of residuals, and hence diminished scenes of saw feed bigotry. Albeit an extra danger of hypoglycemia may increment if there should be an occurrence of 3H takes care of, the complete nursing time included may diminish because of less commitment per neonates. As equipoise exists, we assessed the effect of 2H and 3H calendar of taking care of in children  $< 1500$  g during childbirth, on the frequency of feed bigotry, hypoglycemia, apnea, necrotizing enterocolitis (NEC), and time to accomplish full feeds.

The essential result was the occurrence of feed bigotry. Feed bigotry was viewed as present if gastric buildup was more than 33% of the past feed, or there was an expansion in stomach circumference by 2 cm or more in past 6 h, or if X-beam of mid-region was unusual. Early radiographic discoveries of feed bigotry are enlarged, gas-filled circles of gut, thickening of gut dividers, and air-liquid levels. Optional results were hypoglycemia (glucose  $< 45$  mg/dl), apnea, NEC and time to accomplish full feeds.

In my investigation, we found no distinction in the frequency of feed prejudice, hypoglycemia, apnea, NEC, or so as to arrive at full feeds on contrasting children and 2H and 3H taking care of calendars. The explanation behind this was not very surely known. On the off chance that feed bigotry is identified with recurrence, at that point 3H ought to be better as it permits additional time after each feed. Though on the off chance that feed prejudice is identified with volume, at that point 2H feeds should have less feed narrow mindedness because of diminished total volume in each feed. With an expanding number of NICU affirmations and expanded remain in NICU as increasingly more of outrageous preterm youngsters endure today, recurrence of taking care of is a significant thought. Potential points of interest of 3H takes care of are that it not just decreases by and large nursing time, it might likewise limit presentations to outer boosts (takes care of), accordingly advancing formatively strong consideration without increment in any unfavorable occasions.

While, the potential issues foreseen whenever took care of in more extensive stretch is an expanded volume in each feed bringing about feed prejudice and the danger of hypoglycemia.