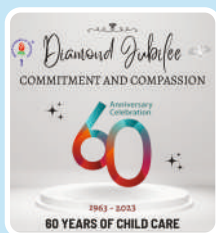


Indian Academy of Pediatrics (IAP)



nRICH

Newer **R**esearch and recommendations **I**n **C**hild **H**ealth

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UNDER THE AUSPICES OF THE IAP ACTION PLAN 2023

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Dear fellow IAPans,

nRICH

Newer Research and recommendations In Child Health-aims to bring you the abstracts of some of the breakthrough developments in pediatrics, carefully selected from reputed journals published worldwide.

Expert commentaries will evaluate the importance and relevance of the article and discuss its application in Indian settings. nRICH will cover all the different subspecialties of pediatrics from neonatology, gastroenterology, hematology, adolescent medicine, allergy and immunology, to urology, neurology, vaccinology etc. Each issue will begin with a concise abstract and will represent the main points and ideas found in the originals. It will then be followed by the thoughtful and erudite commentary of Indian experts from various subspecialties who will give an insight on way to read and analyze these articles.

I'm sure students, practitioners and all those interested in knowing about the latest research and recommendations in child health will be immensely benefitted by this endeavor which will be published online on every Monday.

Happy reading!

Upendra Kinjawadekar
National President 2023
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Nifty Cup Versus Katori-Spoon Feeding in Preterm Infants: A Randomized Controlled Trial

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BASED ON ARTICLE

Gujjar N, Kalyan G, Kumar J, Kumar P, Sirswal S. *Breastfeed Med.* 2023 Mar;18(3):233-240.

ABSTRACT

Background: Many preterm infants cannot breastfeed directly and depend on other feeding methods. Multiple studies have compared feeding methods for such infants; however, the best method remains unknown. We compared Nifty cup with Katori-spoon feeding in preterm neonates deemed fit for oral feeding.

Methods: This open-label randomized controlled trial was performed in a level III neonatal unit. Preterm (<34 weeks) neonates deemed fit to initiate oral feeding were randomly allocated to the Nifty cup and Katori-spoon groups. Patients were followed up until 40 (± 2) weeks of postmenstrual age or until death, whichever occurred earlier. The primary outcome was time to achieve full oral feeding. The secondary outcomes included the time spent per feeding session, time to full direct breastfeeding, anthropometry at discharge, duration of hospitalization, and mortality. The opinions of mothers and nurses were recorded using a structured questionnaire.

Results: A total of 106 participants (53 in each group) were randomized and analyzed for the primary outcome. The median (1st, 3rd quartile) time to achieve complete oral feeds was 5 (2, 11) versus 6 (4, 11) days in the Nifty cup versus Katori-spoon groups, respectively ($p = 0.2$). Infants in the Nifty cup group reached full breastfeeds earlier (mean difference = 12.6 days; 95% confidence interval: 4.3 to 20.8, $p = 0.003$) and had less vomiting (9.4% versus 26.4%, $p = 0.023$). Mothers and nurses felt that breast milk expression and feeding with a Nifty cup was easier.

Conclusions: Compared to the Katori-spoon, feeding with a Nifty cup did not shorten the time to full oral feeds. However, it helps in attaining full breastfeeds earlier than the Katori-spoon.

COMMENTARY

Feeding of preterm infants born before 34 weeks gestation poses a significant challenge. WHO advises expressed breast milk with cup for infants not able to feed on the breast. A systematic review showed that cup feeding preterm infants results in improved physiology and higher short-term and long-term breastfeeding rates after discharge (1). This study aimed to compare the effectiveness of a newly

designed feeding cup called the Nifty cup with the traditional katori spoon for feeding preterm infants.

In this randomized controlled trial, 106 preterm infants, considered unsuitable for breastfeeding, were enrolled and randomly assigned to either the Nifty cup or the katori spoon feeding group. The study revealed a slight disparity between the two methods in terms of the time taken to achieve complete oral feeds (5 days for Nifty cup group and 6 days for katori spoon group). However, infants in the Nifty cup group achieved full breast feeds in a significantly shorter time (with a mean difference of 12.6 days). “However it is surprising to see this finding as the time to reach full feeds was almost similar in both the groups”. Additionally, the Nifty cup group experienced less vomiting. These findings suggest that the Nifty cup shows promise as a viable alternative in situations with breastfeeding difficulties.

The coordination of suck-swallow-breathing typically develops by 34 weeks of gestation, enabling the possibility of breastfeeding. However, for infants born earlier, the transition to breastfeeding can be facilitated through oral feeding techniques. Common methods for oral feeding include the use of medicinal cups, droppers, katori spoons, paladai, or syringes. The variety of cup options available in terms of sizes, shapes, and volumes can make the selection process challenging.

The Nifty cup is a silicone-based cup with a capacity of 40 ml, allowing for the entire feeding to be administered in a single setting. Its small rectangular reservoir and short depth (2-3 ml) provide the advantage of flow control and pacing of milk feeding, thereby reducing spillage—a common issue encountered with oral feeding. Compared to other oral feeding methods, the Nifty cup addresses the problem of insufficient milk intake, resulting in an overall improved feeding experience.

Oral feeding by any method in real world needs training, supervision, support and monitoring.

IMPLICATIONS FOR PRACTICE

1. The Nifty cup offers an alternative for oral feeding in preterm infants who are unable to breastfeed, assisting in their transition to exclusive breastfeeding.
2. Additional studies are required to assess the effectiveness of the Nifty cup in various clinical settings, specific gestational age groups, cost-effectiveness and to compare its performance with other methods of oral feeding.

REFERENCES

1. Penny F, Judge M, Brownell E, McGrath JM. Cup feeding as a supplemental, alternative feeding method for preterm breastfed infants: An integrative review. *Matern Child Health J.* 2018;22:1568–1579.