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**Literature search results**

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**Search details**

Cup feeding. Babies that leave neonatal/maternity ward with feeding cup.

**Resources searched**

NHS Evidence; TRIP Database; Cochrane Library; BNI; CINAHL; MEDLINE; Advanced Google

*Database search terms:* cup-feed* OR "cup feed*"

*Evidence search string(s):* cup-feed* OR "cup feed*"

*Google search string(s):* "cup feed" OR "cup feeding"

**Summary**

There are no UK guidelines for cup feeding but some Trusts have included cup-feeding into their breastfeeding/baby feeding guidelines.

**Guidelines**

*Australian Breastfeeding Association*

*Cup-feeding*, 2012

*Hillingdon Hospitals NHS Foundation Trust*

*Feeding your baby*, undated

p. 21

*Lancashire Teaching Hospitals NHS Foundation Trust*
Evidence-based reviews

Cochrane Database of Systematic Reviews

Avoidance of bottles during the establishment of breast feeds in preterm infants, 2010
Supplementing breast feeds by cup confers no breastfeeding benefit beyond discharge home and delays discharge considerably. There is currently insufficient evidence on which to base recommendations for a tube alone approach to supplementing breast feeds. Further research is needed to evaluate a tube alone approach.

Cup feeding versus other forms of supplemental enteral feeding for newborn infants unable to fully breastfeed, 2008
Cup feeding cannot be recommended over bottle feeding as a supplement to breastfeeding because it confers no significant benefit in maintaining breastfeeding beyond hospital discharge and carries the unacceptable consequence of a longer stay in hospital.

Published research

Title: Cup feeding-a valuable tool.
Citation: Journal of Human Lactation, 01 February 2011, vol./is. 27/1(12-13), 08903344
Author(s): Lanese MG
Language: English
Publication Type: journal article
Source: CINAHL

Title: Which method of breastfeeding supplementation is best? The beliefs and practices of paediatricians and nurses.
Citation: Paediatrics & Child Health, September 2010, vol./is. 15/7(427-31), 1205-7088;1918-1485 (2010 Sep)
Author(s): Al-Sahab B, Feldman M, Macpherson A, Ohlsson A, Tamim H
Language: English
Abstract: The aims of the present study were to assess the practices of breastfeeding supplementation methods, and to explore the opinions and beliefs of health professionals with regard to breastfeeding supplementation methods and the nipple confusion phenomenon. The study was cross-sectional in design, and participants were recruited from five hospitals in Toronto, Ontario. All of the nurses and attending paediatricians in postpartum floors and level II nurseries were invited to participate in the study. A total of 87 nurses and 16 paediatricians completed the survey questionnaire. Bottle feeding was the most common breastfeeding
supplementation method used in the nurseries followed by cup feeding. Only 15.0% of the level II nurses agreed that frequent bottle feeds lead to the nipple confusion phenomenon, compared with 44.4% of the postpartum nurses and 56.2% of the paediatricians. Findings demonstrated considerable variation in the practices and beliefs surrounding supplementation methods. A randomized controlled trial comparing the safety, efficiency and subsequent breastfeeding rates of different breastfeeding supplementation methods is warranted.

**Publication Type:** Journal Article  
**Source:** MEDLINE  
**Full Text:** Available from National Library of Medicine in Paediatrics and Child Health

**Title:** Supplementation with cup-feeding as a substitute for bottle-feeding to promote breastfeeding.  
**Citation:** Chang Gung Medical Journal, July 2009, vol./is. 32/4(423-31), 2072-0939;2072-0939 (2009 Jul-Aug)  
**Author(s):** Huang YY, Gau ML, Huang CM, Lee JT  
**Language:** English  
**Abstract:** BACKGROUND: Few studies have provided evidence to verify that bottle-feeding has negative effects on breastfeeding. There is insufficient evidence to support the practice of cup-feeding to supplement breastfeeding. However, it has been applied as a substitute for bottle-feeding to promote breastfeeding. The aims of this study were to explore the differences in infant sucking competence, infant sucking behavior and maternal milk supply among babies who were exclusively breastfeeding (breast group), breast feeding with cup supplementation (cup group) and breast-feeding with bottle supplementation (bottle group) at different periods postpartum. METHODS: A longitudinal study was carried out at a medical center located in northern Taiwan. The cup and bottle groups were recruited at two different times to avoid interaction. The breast group consisted of infants who were fully breastfed and were never exposed to a bottle or a cup during the hospital stay. Two hundred and five healthy mothers and their full-term, singleton infants were eligible for enrollment. We used structured questionnaires and made observations to obtain information on breastfeeding at the first breastfeeding and the third day after birth, and then followed up these cases at two and four weeks. RESULTS: The bottle group was significantly more fretful during breastfeeding (p< .01). Mothers in the bottle group perceived that their milk supply was less sufficient than those in breast and cup groups (p < .01). CONCLUSIONS: Some indicators of breastfeeding were similar in the breast and cup groups. Cup-feeding was better than bottle-feeding when supplementary formula was needed for medical treatment.

**Publication Type:** Journal Article  
**Source:** MEDLINE

**Title:** Cup versus bottle feeding for hospitalized late preterm infants in Egypt: a quasi-experimental study.  
**Citation:** International Breastfeeding Journal, 2008, vol./is. 3/(27), 1746-4358;1746-4358 (2008)  
**Author(s):** Abouelfettoh AM, Dowling DA, Dabash SA, Elguindy SR, Seoud IA  
**Language:** English  
**Abstract:** BACKGROUND: Although previous studies have demonstrated beneficial breastfeeding outcomes when cup feeding rather than bottle feeding was used for feeding preterm infants, cup feeding has not been implemented in Egypt. The aim of the current study was to examine the effect of using cup feeding as an exclusive method of feeding preterm infants during hospitalization on breastfeeding outcomes after discharge. METHODS: A quasi-experimental design, with the control group studied first, was used to examine the effect of cup feeding for preterm infants on breastfeeding outcomes after discharge. Sixty preterm infants
(mean gestational age was 35.13 weeks and mean birth weight was 2150 grams) were recruited during Neonatal Intensive Care Unit (NICU) stay. Control group infants (n = 30) received only bottle feedings during hospitalization and the experimental group (n = 30) received only cup feedings during hospitalization. Both groups were followed up after discharge for six weeks to evaluate infant's breastfeeding behavior and mother’s breastfeeding practices. Data were analyzed using descriptive statistics and repeated measures ANOVA for testing the differences between the cup feeding and bottle feeding groups over six weeks after discharge.

RESULTS: Cup fed infants demonstrated significantly more mature breastfeeding behaviors when compared to bottle fed infants (p < 0.01) over six weeks, and had a significantly higher proportion of breast feedings one week after discharge (p = 0.03). CONCLUSION: Cup fed infants were more exclusively breast fed one week after discharge, supporting the Baby Friendly Hospital Initiative recommendations for using cup feeding and avoiding bottle feeding when providing supplementation for preterm infants. The current study provides initial evidence for the implementation of cup feeding as a method of supplementation for late preterm infants during hospitalization.

TRIAL REGISTRATION: Clinical Trial NCT00756587.

Publication Type: Journal Article
Source: MEDLINE
Full Text: Available from National Library of Medicine in International Breastfeeding Journal

Title: Evaluation of paladai cup feeding in breast-fed preterm infants compared with bottle feeding.
Citation: Early Human Development, September 2007, vol./is. 83/9(619-21), 0378-3782;0378-3782 (2007 Sep)
Author(s): Aloysius A, Hickson M
Language: English
Abstract: This pilot study developed an appropriate procedure to evaluate the paladai cup compared to bottle feeding in preterm infants, using weighed napkins and video analysis to assess amount of spillage, volume consumed, time taken and physiological stability. Paladai results demonstrated increased spillage, increased feed times with more stress cues.

Publication Type: Comparative Study, Evaluation Studies, Journal Article
Source: MEDLINE
Full Text: Available from MIDIRS: Midwifery Digest in Lincoln County Hospital Professional Library

Title: Cup feeding revisited.
Citation: MIDIRS Midwifery Digest, Sep 2006, vol. 16, no. 3, p. 397-402, 0961-5555 (September 2006)
Author(s): Trotter, S
Abstract: Review of the evidence on the use of open cups for feeding infants during the weaning process, including reasons for early use and possible links between lidded cups or bottles and dental caries, speech difficulties, iron deficiency anaemia and bacterial infections.

Source: BNI
Full Text: Available from MIDIRS: Midwifery Digest in Lincoln County Hospital Professional Library

Title: Breastfeeding promotion for infants in neonatal units: a systematic review and economic analysis.
Citation: Health Technology Assessment, Aug 2009, vol. 13, no. 40, p. 1-146, 1366-5278 (August 2009)
Author(s): Renfew, M, Craig, D, Dyson, L
Abstract: Systematic review and economic analysis of the evidence concerning effectiveness of methods to promote breastfeeding with breastmilk for infants in
neonatal units. The review examines value of kangaroo skin-to-skin contact with mothers, peer support at home and in the hospital, use of pharmaceutical galactogogues, cup feeding, and staff attitudes and training.

**Source:** BNI

**Title:** Effect of bottles, cups and dummies on breast feeding in preterm infants: randomised controlled trial.


**Author(s):** Collins, C, Ryan, P, Crowther, C

**Abstract:** Research by randomised controlled trial in Australia on the effect of use of artificial teats and cups on breast feeding in preterm infants. The study examined whether dummy use should be prevented, and the acceptability as well as effects of cup feeding.

**Source:** BNI

**Full Text:** Available from Highwire Press in BMJ: British Medical Journal: Clinical Research Edition

Available from British Medical Journal in Lincoln County Hospital Professional Library

**Title:** Improving breast feeding rates in preterm babies: cup feeding versus bottle feeding.

**Citation:** Journal of Neonatal Nursing, 01 July 2004, vol./is. 10/4(118-120), 13551841

**Author(s):** Gilks J, Watkinson M

**Language:** English

**Abstract:** The widely held belief that cup feeding of preterm babies benefits breast feeding has little scientific support. In order to inform unit practice and improve breast feeding rates a pilot randomised controlled trial was performed to investigate the influence of cup feeding and bottle feeding on rates of breast feeding at discharge, term and 6 weeks post term, in preterm infants of mothers who expressed a desire to breast feed.

**Publication Type:** journal article

**Source:** CINAHL

**Title:** Cup-feeding for preterm infants: mechanics and safety.

**Citation:** Journal of Human Lactation, February 2002, vol./is. 18/1(13-20; quiz 46-9, 72), 0890-3344;0890-3344 (2002 Feb)

**Author(s):** Dowling DA, Meier PP, DiFiore JM, Blatz M, Martin RJ

**Language:** English

**Abstract:** Cup-feeding is recommended for breastfed preterm infants to avoid artificial nipples. However, the oral mechanisms used in cup-feeding, or its safety and efficacy, have not been described. The authors measured sipping, breathing, SaO2, and volume of intake during 15 cup-feeding sessions for 8 infants (mean gestational age at birth was 30.6 weeks). Mean duration of sipping bursts and pauses was 3.6 seconds and 28.1 seconds, respectively. Mean breathing rate during bursts and pauses was similar (46.2 +/- 24.3 vs 45.7 +/- 17.7, respectively), with SaO2 > or = 90% during all bursts. Mean duration of cup-feedings was 15.2 +/- 3.9 minutes (range, 11.0-23.3), whereas mean volume of intake was only 4.6 +/- 2.2 mL (range, 1.5-8). For the 15 sessions, 38.5% of milk taken from the cup was recovered on the bib. Although infants remain physiologically stable, cup-feeding has questionable efficacy and efficiency. Differentiating between actual intake versus spillage of milk merits attention.

**Publication Type:** Journal Article, Research Support, Non-U.S. Gov't

**Source:** MEDLINE
Title: Cup or bottle for preterm infants: effects on oxygen saturation, weight gain, and breastfeeding.

Citation: Journal of Human Lactation, May 2002, vol./is. 18/2(132-8), 0890-3344:0890-3344 (2002 May)

Author(s): Rocha NM, Martinez FE, Jorge SM

Language: English

Abstract: The impact of cup-feeding or bottle-feeding on weight gain, oxygen saturation, and breastfeeding rates of preterm infants was studied in 34 bottle-fed and 44 cup-fed preterm infants. At initiation of oral feeding, postconceptional age and weight were 37.2 +/- 2.2 weeks and 1676 +/- 83 g for the bottle-fed group (BF) and 37.0 +/- 1.6 weeks and 1637 +/- 40 g for the cup-fed (CF) group, respectively. No significant differences between groups were found with regard to time spent feeding, feeding problems, weight gain, or breastfeeding prevalence at discharge or at 3-month follow-up. Possible beneficial effects of cup-feeding were lower incidence of desaturation episodes (13.6% vs 35.3%, CF vs BF, P = .024) and a higher prevalence of breastfeeding at 3 months among those still breastfeeding at the first follow-up visit (68.4% vs 33.3%, CF vs BF, P = .04).

Publication Type: Clinical Trial, Comparative Study, Journal Article, Randomized Controlled Trial

Source: MEDLINE

Title: Nipple confusion, alternative feeding methods, and breast-feeding supplementation: state of the science.

Citation: Newborn & Infant Nursing Reviews, 01 December 2001, vol./is. 1/4(217-223), 15273369

Author(s): Dowling DA, Thanattherakul W

Language: English

Abstract: Mothers of preterm and term infants frequently experience breast feeding problems that make it necessary for them to use supplemental or complementary feedings. Although bottle feeding is used most frequently, alternatives to bottle feeding are frequently recommended to avoid nipple confusion. This report reviews the evidence of a relationship between exposure to artificial nipples and the development of nipple confusion. It also examines the effects of alternative feeding methods such as cup feeding, finger feeding, spoon feeding and gavage feeding on physiological responses of infants and long-term breast-feeding outcomes. This report recommends further research before alternatives to bottle feeding are routinely implemented. Copyright © 2001 by W.B. Saunders Company

Publication Type: journal article

Source: CINAHL

Title: Physiologic stability of newborns during cup- and bottle-feeding.

Citation: Pediatrics, November 1999, vol./is. 104/5 Pt 2(1204-7), 0031-4005;0031-4005 (1999 Nov)

Author(s): Howard CR, de Blieck EA, ten Hoopen CB, Howard FM, Lanphear BP, Lawrence RA

Language: English

Abstract: BACKGROUND: To prevent breastfeeding problems, cup-feeding has been recommended as a method of providing medically necessary supplemental feedings to breastfed infants.OBJECTIVES: To compare amounts ingested, administration time, and infant physiologic stability during cup-, bottle-, and breastfeeding.DESIGN/METHODS: A total of 98 term, healthy newborns were randomized to either cup-feeding (n = 51) or bottle-feeding (n = 47). The heart (HR), respiratory (RR), and oxygen (O(2)) saturation rates were monitored on these infants and 25 breastfed newborns during 1 feeding. Differences in amounts ingested and administration times were evaluated with t tests and physiologic data with repeat measures analysis of variance.RESULTS: There were no significant
differences in administration time, amounts ingested or overall HR, RR, and (O(2)) saturation rates, between cup and bottle groups. Breastfed infants had longer administration times and lower overall HR, RR, and higher (O(2)) saturation as compared with cup- and bottle-fed infants.

**CONCLUSIONS:** Administration times, amounts ingested, and infant physiologic stability do not differ with cup- and bottle-feeding. Breastfeeding takes longer than cup- or bottle-feeding, but infants experience less physiologic variability. These data support cup-feeding as an alternative to bottle-feeding for supplying supplements to breastfed infants.

**Publication Type:** Clinical Trial, Journal Article, Randomized Controlled Trial, Research Support, U.S. Gov't, P.H.S.

**Source:** MEDLINE

**Full Text:**
Available from Highwire Press in Pediatrics
Available from *American Academy of Pediatrics* in Pediatrics

**Title:** A cup feeding protocol for neonates: evaluation of nurses' and parents' use of two cups.

**Citation:** Journal of Neonatal Nursing, 01 March 1999, vol./is. 5/2(31-36), 13551841

**Author(s):** Nyqvist KH, Strandell E

**Language:** English

**Abstract:** This study evaluated nurses' attitudes, knowledge and experience in the use of two feeding cups after the introduction of a cup feeding protocol into a neonatal intensive care unit. Nurses' responses to a questionnaire revealed some reluctance to practise cup feeding. A spouted cup was associated with increased risk of pouring milk into the infant's mouth, particularly when used by parents. An introduction programme and a cup feeding protocol are proposed. The programme and protocol include instructions to parents, information concerning correct feeding technique, infant position during feeding, and rules of hygiene.

**Publication Type:** journal article

**Source:** CINAHL

**Title:** A comparison of breast and cup feeding in preterm infants: effect on physiological parameters.

**Citation:** Journal of Neonatal Nursing, 01 January 1999, vol./is. 5/1(16-21), 13551841

**Author(s):** Freer Y

**Language:** English

**Abstract:** Cup feeding has been promoted as being a method of oral feeding which infants can participate in when they are unable, for whatever reason, to breast feed. Although studies show success at breast feeding following implementation of this feeding method, no data could be found which examines the performance of cup feeding infants. This study, comparing breast and cup feeding performance within a group of preterm infants, demonstrates that feeding outcomes as measured by sucking, swallowing and breathing frequencies and rhythm are very different for the two feeding methods. Furthermore, it shows how infants may be more compromised during cup feeding. Thus cup feeding should not be considered a 'safe or simple' feeding method in respect to preterm infants.

**Publication Type:** journal article

**Source:** CINAHL

**Title:** Cup feeding. How and when to use it with term babies.

**Citation:** Practising Midwife, December 1998, vol./is. 1/12(33-5), 1461-3123;1461-3123 (1998 Dec)

**Author(s):** Samuel P

**Language:** English

**Publication Type:** Case Reports, Journal Article
Title: Immature sucking response in premature babies: cup feeding as a tool in increasing maintenance of breast feeding.

Citation: Journal of Neonatal Nursing, 01 March 1998, vol./is. 4/2(13-17), 13551841

Author(s): Ritchie JF

Language: English

Abstract: Premature babies are at a disadvantage when feeding, as they may not have the ability to suck, which means that other methods of feeding need to be initiated until the baby is mature enough to breast feed. There is little current research into cup feeding in the interim period between gastric tube feeding and breast feeding, but it appears to encourage a higher rate of breast feeding on discharge from the neonatal intensive care unit (NICU). A policy of feeding without the use of bottles as well as encouraging parental involvement, is described and discussed.

Publication Type: journal article
Source: CINAHL

Title: Cup feeding the newborn: what you should know.

Citation: Journal of Perinatal & Neonatal Nursing, September 1997, vol./is. 11/2(56-60), 0893-2190;0893-2190 (1997 Sep)

Author(s): Kuehl J

Language: English

Abstract: Cup feeding is gaining increased recognition as an alternative method of feeding infants breast milk. For the term infant, cup feeding is suggested when the mother is unavailable to put the infant to breast. In the preterm population, cup feeding may be initiated before the preterm infant is ready to be put to the breast. Although further research is needed to substantiate the proposed benefits of cup feeding, the article provides information about selecting the appropriate candidates for cup feeding and offers step-by-step instructions to ensure that cup feeding is done safely.

Publication Type: Journal Article
Source: MEDLINE

Title: Creating and implementing a protocol for cup feeding.

Citation: Mother Baby Journal, 01 May 1997, vol./is. 2/3(27-33), 10846190

Author(s): Biancuzzo M

Language: English

Publication Type: journal article
Source: CINAHL

Title: Cup feeding: problems created by incorrect use.

Citation: Journal of Human Lactation, March 1997, vol./is. 13/1(54-5), 0890-3344;0890-3344 (1997 Mar)

Author(s): Thorley V

Language: English

Abstract: This case describes an infant who was fully fed breast milk by cup, because of poor attachment and breast refusal. Faulty method of cup feeding caused the infant to aspirate breast milk and hindered, rather than assisted, the retention of oral skills required for attachment at the breast. Withdrawal of the cup and use of other feeding techniques produced good mouth closure and deep swallowing.

Publication Type: Case Reports, Journal Article
Source: MEDLINE

Title: Cup-feeding: an alternative for mothers and babies.
Citation: British Journal of Midwifery, Aug 1995, vol. 3, no. 8, p. 434-437, 0969-4900 (August 1995)
Author(s): Christmas, J
Abstract: Alternative to naso-gastric tube for preterm babies.
Source: BNI

Title: Cup feeding: an alternative method of infant feeding.
Citation: Archives of Disease in Childhood, Oct 1994, vol. 71, no. 4, p. 365-369, 0003-9888 (October 1994)
Author(s): Lang, S. et al
Source: BNI
Full Text: Available from National Library of Medicine in Archives of Disease in Childhood
Available from Highwire Press in Archives of Disease in Childhood

Title: Cup-feeding: an alternative method.
Citation: Midwives Chronicle, May 1994, vol. 107, no. 1276, p. 171-176, 0026-3524 (May 1994)
Author(s): Lang, S
Abstract: An alternative to bottle or breastfeeding.
Source: BNI

Google Scholar

Cup feeding of newborn infants
RC Fredeen - Pediatrics, 1948 - Am Acad Pediatrics
Abstract A method of feeding the artifically fed infant from a cup starting at birth has been described. Increase in weight is as great when this method is used as in breast or bottle fed infants. Cup feeding is particularly suited to the premature and feeble infant and those with
Cited by 39 Related articles All 5 versions Cite

Brief report. Cup feeding: an alternative to bottle feeding in a neonatal intensive care unit
Abstract Cup feeding has been suggested as an alternative to bottle feeding to help promote breastfeeding by avoiding nipple confusion. To demonstrate the possibility and utility of cup feeding, records of 59 preterm and low birthweight babies (born before 37 weeks’ ...
Cited by 36 Related articles BL Direct All 8 versions Cite

PDF Cup feeding versus other forms of supplemental enteral feeding for newborn infants unable to fully breastfeed
A Flint, K New, MW Davies - Cochrane Database Syst Rev, 2007 - who.int
Background Breast milk provides optimal nutrition for newborn infants, and the ideal way for infants to receive breast milk is through suckling at the breast. Unfortunately, this may not always be possible, as there are numerous reasons why a newborn infant may not be ...
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Effects of cup, bottle and breast feeding on oral activities of newborn infants
HV DAvis, RR Sears, HC Miller, AJ Brodbeck - Pediatrics, 1948 - Am Acad Pediatrics
... (Received for publication June 3, 1948.) * Cup feeding from birth has been a practice followed by Dr. Robert Fredeen in some babies for several years. ... rests on the differences between cup feeding and breast or bottle sucking. Cup feeding ...
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Techniques of feeding infants: the case for cup feeding
Cited by 4 Related articles Cite

Cup-feeding: an alternative method
HED Shallow - Midwives Chronicle and Nursing Notes, 1994
Cited by 3 Related articles Cite

The physiologic and neurobehavioral effects of a single cup feeding on 10 healthy preterm infants: pilot study results
B Ackerman, B Sabo, K Tillinghast - Unpublished data. Yale-New Haven Hospital, 1998
Cited by 2 Related articles Cite

How to Prepare Formula for Cup-Feeding at Home
Cited by 2 Related articles Cite

Relation of Cup-feeding in Infancy to Thumb-sucking and the Oral Drive
RR Sears, GW Wise - Readings in child development, 1954 - Harcourt, Brace
Cited by 1 Related articles All 2 versions Cite

Cup-feeding: policy and procedure
NE Wight - San Diego County Breastfeeding Coalition, 1995
Cited by 1 Related articles Cite