Does the use of artificial (eats (dummy or bottle) affect breast feeding success in preterm infants? A randomised controlled trial and systematic review.

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A thesis submitted for the degree of Doctor of Philosophy, at the University of Adelaide, December, 2003
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Abstract

Establishing successful breast feeding can be difficult for mothers of preterm infants. Artificial teats (dummy or bottle) form part of standard practice in neonatal intensive and special care nurseries but may adversely affect breast feeding outcomes.

This study investigated the relationship between artificial teats and breast feeding outcomes in preterm infants by undertaking a multi-centred randomised controlled trial comparing bottles, cups and dummies in preterm infants less than 34 weeks gestation at birth, and by conducting a systematic review of randomised controlled trials of artificial teats and breast feeding outcomes in preterm infants.

The results of the randomised controlled trial showed that using a dummy had no significant effect on the proportion of infants breast feeding on discharge home (Fully breast feeding versus partially and not: OR 0.84, 95% CI 0.51 to 1.39, P=0.50; Any breast feeding versus not: OR 0.83, 95% CI 0.45 to 1.50, P=0.53). The addition of data from the randomised controlled trial to an existing Cochrane systematic review showed that dummy use did not affect length of hospital stay (weighted mean difference -3.97 days, 95% CI -8.10 to 0.15). There appear to be no disadvantages in using a dummy during hospitalisation for the preterm infant.

The results of the randomised controlled trial showed that the use of cups significantly increased the proportion of infants discharged home fully breast feeding (OR 1.73, 95% CI 1.04 to 2.88, P=0.03) but had no significant effect on any breast feeding (OR 1.27, 95% CI 0.78 to 2.38, P=0.27). The use of cups significantly increased the risk for an increased time to reach all sucking feeds (HR 1.75, 95% CI 1.34 to 2.28, P<0.001) and increased length of hospital stay (HR 1.41, 95% CI 1.99 to 1.82, P=0.01).

The results of the systematic review showed that avoiding the use of a bottle during the transition to breast feeding has significant advantages for breast feeding success on discharge home (Fully: RR 1.41, 95% CI 1.19 to 1.69; Any: RR 1.13, 95% CI 1.01 to 1.2) and at three and six months post discharge. However, more research is needed on the method of ‘no bottle’. There do not appear to be any negative effects of a tube alone approach in the transition to breast feeding, but there is a non significant increase in any breast feeding and a longer duration of time to full sucking feeds and length of stay with cup feeds.