

CLINICAL UPDATE

Pacifiers, breastfeeding and soothing

Kramer MS, Barr RG, Dagenais S, Yang H, Jones P, Ciofani L, et al. Pacifier use, early weaning, and cry/fuss behavior. *JAMA* 2001;286:322-6.

Background: Many modern-day clinicians and public health caregivers believe that pacifiers promote nipple confusion and lead to early weaning.¹ In fact, avoidance of pacifiers constitutes step 9 of the World Health Organization/UNICEF Baby-Friendly Hospital Initiative.² Most of the evidence to support this arises from observational studies that, by design, fail to control for the confounding influences of cultural attitudes and personal motivations.³

Question: Does advice to avoid pacifier use, delivered to new mothers during their postpartum stay in hospital, reduce the risk of weaning from the breast before 3 months or increase the frequency or duration of crying and fussing by the infant?

Design: This randomized controlled trial, conducted over 20 months in a maternity hospital in Montreal, involved 281 healthy women who intended to breastfeed their healthy, term, singleton infants. The mothers were randomly allocated either to an experimental postpartum breastfeeding interview, in which the lactation consultant advised the avoidance of pacifier use when the baby fussed, or to a control interview, in which all options for calming the infant, including pacifier use, were discussed. At weeks 4, 6 and 9 the mother recorded her infant's behaviour, including the frequency and duration of episodes of crying or fussing, over 3 consecutive days. At 3 months an interviewer, blinded to group allocation, asked mothers whether they were still breastfeeding and, if not, the date of weaning. Multiple logistic regression analysis was conducted to calculate the risk of weaning in the experimental group relative to the control group. The mean number of episodes of fussing and minutes of crying were compared using *t*-tests.

Results: Baseline demographic characteristics were similar in the 2 groups, although there was a slightly higher proportion of single women (21% v. 16%) and smokers (15% v. 10%) in the experimental group. There were no differences between the 2 groups in the proportion of women who participated in the interview (91%) or who completed the surveys at 4 (70.9%), 6 (60.5%) and 9 weeks (57.4%). The women who dropped out were more likely to be younger, single and smokers than the women who completed the study.

Significantly more women in the experimental group than in the control group reported completely avoiding pacifier use (38.6% v. 16.0%) (relative risk [RR] 2.4, 95% confidence interval [CI] 1.5–3.8). Also, the mean number of pacifier insertions per day was significantly lower in the experimental group than in the control group at weeks 4 (0.8 v. 2.4), 6 (0.8 v. 3.0) and 9 (1.3 v. 3.0). However, there was no difference between the experimental and control groups in the proportion of infants weaned from the breast (18.9% and 18.3% respectively; RR 1.0) or not exclusively breastfed (63.8% and 66.4% respectively; RR 1.0) at 3 months, or in cry/fuss behaviour at weeks 4, 6 or 9.

Comments: These results fail to substantiate claims of a direct link between pacifier use and a higher risk of early weaning from the breast. Advice to avoid pacifier use did not reduce the risk of early weaning, although it is possible that women who were advised not to use pacifiers may have been biased toward falsely reporting that they complied with the advice. The effect of such a bias would be to reduce the strength of treatment effect of this advice (if it existed) and possibly to conceal a real difference.

The authors did not report on the ethnic and cultural backgrounds of the mothers, 2 important determinants of breastfeeding that may have confounded the analysis. Finding no effect of the intervention, the investigators conducted an observational analysis to

determine whether pacifier use was a predictor of early weaning. Among the infants reportedly exposed to daily use of a pacifier, 25.0% were weaned before 3 months of age, as compared with 12.9% of infants not given a pacifier (RR 1.9, 95% CI 1.1–3.3). This is consistent with other observational studies.^{3–10} The authors suggest that such observational results may indicate that pacifier use is a marker for breastfeeding difficulties or low motivation to breastfeed rather than a cause of early weaning.

Practice implications: The effects of pacifier use have not been rigorously studied. This study suggests that pacifier use does not increase the risk of early weaning per se or reduce the duration of fussing and crying episodes of infants. However, a positive response to an enquiry about frequent use of a pacifier may identify women who require extra breastfeeding support and encouragement. — *Erica Weir, CMAJ*

References

1. Neifert M, Lawrence R, Seacat J. Nipple confusion: toward a formal definition. *J Pediatr* 1995; 126:S125-9.
2. WHO/UNICEF. *Protecting, promoting and supporting breastfeeding: the special role of maternity services*. Geneva: World Health Organization; 1989.
3. Aarts C, Hornell A, Kylberg E, Hofvander Y, Gebre-Medhin M. Breastfeeding patterns in relation to thumb sucking and pacifier use. *Pediatrics* 1999;104:1-10.
4. Victora CG, Tomasi E, Olinto MTA, Barros FC. Use of pacifiers and breastfeeding duration. *Lancet* 1993;341:404-6.
5. Barros FC, Victora CG, Semer TC, Filho ST, Tomasi E, Weiderpass E. Use of pacifiers is associated with decreased breastfeeding duration. *Pediatrics* 1995;95:497-9.
6. Victora CG, Behague DP, Barros FC, Olinto MTA, Weiderpass E. Pacifier use and short breastfeeding duration: Cause, consequence, or coincidence? *Pediatrics* 1997;99:445-3.
7. Richard L, Alade MO. Sucking technique and its effect on success of breastfeeding. *Birth* 1992;19: 185-9.
8. Clements MS, Mitchell EA, Wright SP, Esmail A, Jones DR, Ford RP. Influences on breastfeeding in southeast England. *Acta Paediatr* 1997;86:51-6.
9. Ford RP, Mitchell EA, Scragg R, Stewart AW, Taylor BJ, Allen EM. Factors adversely associated with breast feeding in New Zealand. *J Paediatr Child Health* 1994;30:483-9.
10. Howard CR, Howard FM, Lanphear B, deBlicke EA, Eberly S, Lawrence RA. The effects of early pacifier use on breastfeeding duration. *Pediatrics* 1999;103:E33.