Breastfeeding Duration and the Risk of Dental Caries: A Prospective Cohort Study

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Objectives: Breastfeeding offers abundant health advantages, but a concern of dental caries risk in toddlers with long durations of breastfeeding has been raised with limited and inconsistent findings. Therefore, we followed 1-year-old children for 2 years to investigate the association between breastfeeding duration and dental caries.

Methods: The participants were 568 one-year-old children in Khon Kaen, Thailand. When the children were 12, 18, 24, 30 and 36-month-old, information on infant feeding practices and possible confounding factors were obtained by interviewing main caregivers through a structured questionnaire. Disregarding other foods and liquids, full breastfeeding refers to feeding breast-milk without formula milk, whereas any breastfeeding refers to feeding breastmilk with or without formula milk. Based on breastfeeding duration, children were categorized into four groups: <6, 6-11, 12-17, and ≥ 18 months, of full and of any breastfeeding separately. When children were 36-month-old, full-mouth examination was carried out by one calibrated dentist using modified WHO criteria. To estimate relative risks (RRs) and 95% confidence intervals (CIs), we used log-binomial regression with a generalized linear model.

Results: Of the 486 children who completed the two-year follow-up, 60.3% had cavitated caries with a mean dft of 3.3. Caries prevalence significantly decreased in children with full breastfeeding for ≥ 6 months relative to those with <6 months (adjusted RR [aRR]=0.88, 95%CI: 0.82-0.94 for 6-11 months; aRR=0.68, 95%CI: 0.55-0.84 for 12-17 months; and aRR=0.64, 95%CI: 0.48-0.87 for ≥ 18 months). In contrast, children with any breastfeeding for ≥ 18 months had elevated risk of caries compared to those with <6 months (aRR=1.72; 95%CI: 1.55-1.92).

Conclusions: The results suggest that the longer the full breastfeeding duration, the lower the chance of developing caries. Nevertheless, an increase in caries risk was found when children received mother's milk in combination with formula milk for 18 months or longer.

Keywords: Breastfeeding, Dental caries, Longitudinal study