Gradual weaning and oral care management of prolonged breast-feeding based on family preferences

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ABSTRACT

Background and Overview. There are no guidelines about when breast-feeding (BF) should be discontinued. In addition, investigators have not examined patient-provider communication regarding weaning strategies based on function and oral care management during prolonged BF.

Case Description. Suggestions to wean do not include strategies about how to achieve discontinuance. The authors conducted this case study to assist care providers in facilitation of such discussions with parents to minimize the risk of developing dental caries in older children who are breast-fed. The authors conducted a functional behavior assessment of BF and used the results to inform strategy development. The parent successfully implemented the suggested strategies to wean the child from BF with minimal problem behavior by the child.

Conclusions and Practical Implications. From the outcome of this case report, the authors developed an algorithm based on family preferences and behavioral functions to assist parents with gradual weaning and oral care management during prolonged BF.

Key Words. Breast-feeding; early childhood caries; anticipatory guidance; weaning; function-based interventions.
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Thus far in the dental literature, investigators have not described in-depth patient-provider communication in regard to weaning strategies and oral care management during prolonged breast-feeding (BF). We conducted this case study to assist care providers in facilitating such discussions with parents to minimize the risk of developing dental caries in older children who are breast-fed. We developed an algorithm based on family preferences and behavioral functions (that is, of BF) for dental care providers to assist parents with gradual weaning and oral care management during prolonged BF. Behavior analytic techniques have not, to our knowledge, been applied to cessation of prolonged BF. Our consideration of a behavioral analysis of prolonged BF will inform dental care providers about variables that maintain BF in a parent-child dyad. This information may allow the care provider to customize weaning strategies for parents who want to initiate the BF weaning process and do not know how to or who are struggling with cessation of BF.

BF is a method of feeding for infants and children that has well-documented benefits, such as providing nutritional, developmental, and immunologic support. Infants who are breast-fed exclusively had lower illness rates than did those who were not breast-fed.[1] The practice is beneficial for the mother from a psychological perspective and helps in the development of the mother-child relationship.[2] This feeding practice also has economic benefits because BF is free, whereas substitutes for breast milk (formula) cost money.

There is no consensus as to when parents should transition a child from BF to alternate methods of nutritional delivery. The World Health Organization has recommended that children be breast-fed until 24 months of age.[3] The American Academy of Pediatrics recommends children be breast-fed until

BOX 1

Open-ended behavioral interview (indirect assessment).

BEHAVIORAL INTERVIEW—INDIRECT ASSESSMENT OF BF*
▬ Medical history: No known medical conditions, developmental delays, or sensory issues reported.
▬ Relevant history: Mother started full-time employment, the boy started preschool, sister was breast-fed until 22 months old, multiple failed attempts to eliminate BF because of tantrums.
▬ Feeding issues: the boy had no known feeding disorders, could drink at least one-half of a cup of fluid at a time by using any utensil (for example, sippy cup, straw, open cup), and ate regular family meals.
BF AT 5:30 PM
▬ Setting: Mother would return from work at 4:30 pm. She had implemented a rule that when it was dark outside, the boy could BF. Mom reported that he would ask to be breast-fed once it was dark. He would check the window periodically. Dinner was at approximately 5 pm, but he could request BF before or after. He did not brush after BF.
▬ Duration: The boy would breast-feed multiple times for approximately 5 to10 minutes and play between BF sessions.
▬ Location: The boy would usually prefer BF on the couch with a pillow or blanket but would often feed in the playroom.
▬ Hypothesized function: attention, sensory
BF AT 7:30 PM
▬ Setting: BF followed by bedtime routine—bathing, changing into pajamas, taking vitamins. BF was done before or after book reading, brushing teeth, and going to bed. He did not resist brushing teeth after BF. He had a snack once in a while between dinner and the nighttime routine. The boy often would rub the mother's body during BF.
▬ Duration: BF for approximately 15 to 20 minutes.
▬ Location: BF was conducted in a rocking chair in the boy's room.
▬ Hypothesized function: attention, sensory
BF AT 5:00 AM
▬ Setting: He woke up early in the morning and asked to be breast-fed. His father had been trying to get him back to bed. The boy would cry. The mother eventually would get up and bring him to her bed for BF. He would rub her body during BF. They both would fall asleep. Once in a while, the boy would watch television after BF.
▬ Duration: BF for approximately 30 minutes to 1 hour.
▬ Location: BF in mom's bed.
▬ Hypothesized function: nutritive, attention, sensory

* BF: Breast-feeding.

12 months of age.[4] The American Academy of Pediatric Dentistry's policy on dietary recommendations for infants, children, and adolescents encourages BF of infants for best health, developmental, and psychological outcomes and suggests wiping or brushing teeth when other dietary carbohydrates are introduced.[5] There are no guidelines about when BF should be discontinued.

The effects of prolonged BF on teeth has been a controversial topic. Researchers have reported a lack of correlation between BF and caries.[6,7] However, research results have implied that when breast-fed children are supplemented with other sugary foods, there may be an increased risk of developing dental caries.[8,9] Because of the lack of recommendations about when to discontinue BF and its effect on teeth, decisions regarding continuance or discontinuance of BF often are individualized based on the cultural and social preferences of the family.[10-12]

A dental professional usually will review the oral hygiene and dietary habits of the child during anticipatory guidance with parents.[13] Although these variables are not documented in the literature, a clinician may assess variables such as clinical examination findings (for example, caries, decalcification areas), medical history, feeding capabilities of the child, and family preferences. On the basis of the assessment results, the dental care provider may provide recommendations for continuation or discontinuation of BF and managing oral hygiene and dental caries.

In clinical practice during anticipatory guidance, dental health care professionals often suggest discontinuing prolonged BF for a child with a high risk of developing caries. Some parents may be willing to stop BF but may experience challenges during sudden cessation. Although, to our knowledge, no study investigators have examined negative child behaviors during the weaning process, the child may engage in problem behavior such as crying or refusal to consume other foods such that denial of BF may be withdrawn by the parent in an effort to quiet the child. A gradual weaning process has been suggested to make it easier on both the parent and the child.[14] These parents may benefit from suggestions from the dental care provider during anticipatory guidance about how to achieve gradual discontinuance of prolonged BF.

Our focus in this case study was to develop an algorithm based on family preferences and behavioral function to assist parent-provider discussions about the gradual weaning process from prolonged BF and management of their child's oral care. To suggest effective strategies for the gradual weaning process, the care provider must examine why BF is maintained in older children; therefore, we first analyzed BF from a behavioral perspective.

ANALYSIS OF BREAST-FEEDING

ABA is the systematic use of interventions based on the principles of behavior to change socially significant behaviors.[15] In ABA, there is a strong emphasis on identifying why behavior occurs to develop effective interventions. Although a functional analysis of BF has not been documented in the literature, it is of value to examine why this mother-child dyad behavior is maintained.

Behavior is the activity of living organisms.[15] BF is a behavior because it involves action on the part of an infant or child. Whether adaptive or maladaptive, behavior serves a purpose (that is, it has a function). Behavior analysts refer to this why as the function of

ABBREVIATION KEY. **ABA:** Applied behavior analysis. **BF:** Breast-feeding.