Breastfeeding and Dental Caries

Sandra Yates, LLLC Leader, BC/Y Area Professional Liaison
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Parents often have questions about caring for their breastfed children's teeth, particularly if the child is feeding at the breast to go to sleep or through the night.

The BC Dental Association and the Canadian Dental Association distribute information for parents on caring for their child's teeth that **incorrectly** suggests that human milk and breastfeeding promotes cavity development:

> *"A major cause of tooth decay in infants results from allowing the teeth to have ongoing exposure to beverages such as milk (whether from the bottle or breast), juice or formula, all of which contain sugar."* [i]

> *"Breastfeeding on demand during sleep time can be a risk factor for decay for the same reasons that bottle feeding can be a problem: there is less saliva in the mouth to wash away the liquid which pools in the mouth and causes multiple acid attacks."* [ii]

The fact is, human milk and formula are different.

One study, *Breastmilk-Saliva Interactions Boost Innate Immunity by Regulating the Oral Microbiome in Early Infancy* [iii], explores some of the many differences:

> *"...the absence of the LPO system in infant milk formulae may be detrimental to the health of newborns by changing the selective processes that act on oral microbiota. Our studies point to an interplay of infant saliva, containing hypoxanthine and xanthine as well as growth-promoting nucleotide precursors, with the breastmilk XO-LPO system, producing positive and negative selective pressures on the early oral microbiota that will colonise the gut in infants. This appears to be a unique biochemical synergism within the milk-feeding phenomenon that defines mammals."*

Another study, *Investigation of the Role of Human Breast Milk in Caries Development*, says:

> *"...HBM [Human Breast Milk] alone did not cause enamel decalcification even after 12 weeks exposure. However, when supplemented with 10% sucrose, HBM caused dentinal caries in 3.2 weeks. Conclusion:* ***It is concluded that human breast milk is not cariogenic****. (Pediatr Dent 21:86–90, 1999)"* [iv]

From La Leche League International's book, *Sweet Sleep–Nighttime and Naptime Strategies for the Breastfeeding Family*:

> *"There's no evidence that nighttime nursing itself causes cavities...The type of milk matters. Formula lacks the lactoferin, sIgA (secretory immunoglobulin A), IgG (immunoglobulin G), and the high pH level of human milk that help inhibit cavity formation. It has only 1/100th the cavity-inhibiting lysozyme of human milk! And unlike your milk, it doesn't deposit tooth-strengthening calcium and phosphorus."* [v]

La Leche League's article, *Avoiding Dental Caries* by Joylyn Fowler, explains all of these ideas in more detail:

> *"...vital differences between human milk and most formulas. First, they found that human milk does not significantly lower the pH in the mouth, while almost all brands of artificial baby milk did. The bacteria that is thought to significantly contribute to decay, Streptococcus mutans (S. mutans) thrives in a low pH. Second, most formulas supported significant bacterial growth, while human milk supported only moderate bacterial growth. Third, formulas were found to dissolve tooth enamel (the outer layer of teeth), while human milk actually deposited calcium and phosphorus into enamel (a process known as remineralization). Researchers also concluded that* ***human milk is not cariogenic (does not cause cavities) unless another source of carbohydrates is available for bacteria to feed on. Most artificial baby milk formulas tested were cariogenic*** *(Erickson 1999)."* [vi]

One more article that gives a nice summary comes from an ILCA Inside Track handout for parents, *Taking Care of Your Breastfed Baby's Teeth*:

> *"Old research found breastfeeding at night caused tooth decay; but these studies did not look at babies who were only breastfeeding. The studies included babies who were drinking some formula.* ***Newer research shows breastfeeding lowers the risk of tooth decay****. Most babies breastfeed at night. Night feedings are important for the baby to get enough food. Breastfeeding at night does not cause tooth decay. Some kids get tooth decay. It is not because they breastfeed."* [vii]

Drinking from a breast is not the same as drinking from a bottle.

There is a very big difference in how most breastfed babies drink from the breast compared to drinking from a bottle. A breastfed baby holds the breast deep in their mouth; when milk is released, it is released far back in the baby's mouth. It does not pool in the baby's mouth, it is swallowed. Bottle nipples on the other hand can be held towards the front of the baby's mouth and babies are able to, and may, collect a little bit at a time, resulting in some pooling over the teeth, before finally swallowing. [viii]

"Breastfeeding your infant to sleep is safe." Health Link BC, *Dental Care from Birth to 6 Months* [ix]

Health care providers in Canada are encouraged to support breastfeeding to two years and beyond.

> *Breastfeeding – exclusively for the first six months, and continued for up to two years or longer with appropriate complementary feeding – is important for the nutrition, immunologic protection, growth, and development of infants and toddlers.*
>
> *Health professionals help to create supportive environments for breastfeeding when they continue to promote this practice as the normal way of feeding, along with appropriate complementary foods, for older infants and young children. Discuss with parents their views, concerns and questions.* [x]

Facts that are known to the medical and dental community:

- **Dentists know that in order for dental caries to occur the human mouth needs to have been colonized by Streptococcus mutans.**

  Most people will eventually be colonized through kissing, sharing utensils, etc. Ask any group of people how many have never had a cavity – only a few will raise their hands. These are people who likely have very low levels of S. mutans and/or have better than average dental hygiene. The rest have varying levels of S. mutans colonization. So parents would do well to look after their own dental health when they have children to bring up, in order to keep the levels of S. mutans down in the family.

- **Dentists know that the next ingredient that goes into the development of dental caries is fermentable carbohydrates – foods such as grains, baked goods, juice, etc.**

  Before humans started growing and eating grains and other foods that introduce significant levels of fermentable carbohydrates into the diet, dental caries were rare. [xi] Once foods other than human milk are introduced into the baby's diet, they will likely be eating fermentable carbohydrates. Carbohydrates tend to stick to teeth and then begin to ferment there, interacting with S. mutans and beginning the process that leads to dental caries. It is not commonly appreciated that one of the worst offenders is crackers, a common "baby food". So parents of infants with dental caries can look carefully at the baby's diet and see if they may make changes such that the exposure to "sticky" foods, sugar, etc. is reduced or eliminated.

- **Dentists know that good oral hygiene is very important in preventing dental caries.**

  The main reason for this is that brushing, flossing, etc. removes fermentable carbohydrates from the teeth and therefore interrupts the fermentation process and the interaction with S. mutans that results in tooth decay. It is clear to everyone that good oral hygiene begins very early and continues throughout life. Parents should certainly be encouraged to care for their babies gums and teeth right from the start. Breastfed babies can get dental caries and their health must be protected by diligent care of the teeth. [x]

- **Dentists know how to protect teeth with various coatings and topical applications that can keep early dental caries that may develop at bay.**

  Some children may be more susceptible to dental caries for the reasons stated above or for other reasons. Parents should be encouraged to take their child to the dentist early so that these issues can be caught early and managed.

Dentists and health care providers have a duty to support breastfeeding and human milk feeding families. A reminder about the facts can be helpful.

References

[Page 1] [Page 2] [Page 3]

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[Page 1] [Page 2] [Page 3]