



Infant Feeding Position Statement
August 29th, 2014

- The OAPHD recognizes the significance of providing complete and correct information to families about the benefits of breastfeeding, the social and economic costs of formula and bottle feeding, and the long term benefits of maintaining good oral health early in life.
- All healthcare professionals should respect and support families' personal decisions around infant feeding.
- Infant feeding practices and oral hygiene habits significantly determine the future oral and general health of the child. Therefore, it is recommended that early establishment of healthy routine practices be promoted.

Background

Oral health is an attribute of biomedical,¹ socio-demographic,¹ environmental and behavioral determinants of health. Poor oral health is associated with various dental problems which have both short and long term social and economic implications. Diet is one of the principal biomedical factors implicated in dental caries.² Oral health is also affected significantly by the feeding practices followed from birth through childhood and later in life.² Therefore oral hygiene is of particular concern for infants and preschool age children. The following infant feeding position statement reviews position statements from other health organizations (Canadian Dental Association (CDA), Canadian Pediatric Society (CPS), Health Canada, American Association of Pediatric Dentistry (AAPD) as well as the newly released Health Canada Joint Statement on Infant Feeding , . This joint statement is consistent with Breastfeeding Committee for Canada's Baby Friendly Initiative, which outlines best practices for infant feeding.

Introduction

Dental caries is principally caused by *Streptococcus mutans* bacteria which form a significant portion of the oral flora in children with carious teeth.³ Establishment of bacteria in the mouth starts at birth through salivary transmission from the mother or caregiver (vertical transmission) or from family especially siblings (horizontal transmission) by sharing of infant's items such as utensils.^{4,5} Colonization of bacteria increases significantly when primary teeth start erupting approximately at the age of six months.^{3,6} These bacteria act on the fermentable carbohydrates present in the food to produce acids which in turn cause demineralization of the tooth enamel causing caries.

Since the establishment of normal flora in an infant's oral cavity depends on dietary habits such as type of food intake and its frequency, accurate knowledge about infant feeding practices is essential for both health professionals and the caregivers. High risk dietary practices may establish as early as the first twelve months of age and continue throughout childhood.⁶ These include intake of sweetened beverages, between meal snacking, foods such as teething biscuits, feeding from a bottle, and continuous sipping of sweetened fluids, milk or juice from a no spill cup. These feeding practices are significant factors in causing Early Childhood Caries in addition to the role of other social, environmental and economic determinants of oral health. Breast milk on its own is not linked to dental caries in vitro.^{4,7} However, *ad libitum* breastfeeding after introduction of other dietary carbohydrates and inadequate oral hygiene are risk factors for Early Childhood Caries.⁶

Early Childhood Caries (ECC)

Early Childhood Caries is defined as the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries) or filled tooth surfaces of a primary tooth in a child of

71 months of age or younger.⁴ It is an infectious, transmissible and diet dependent disease caused by an interplay of multiple risk and protective factors.¹ ECC is a growing concern in Canadian children belonging to all socioeconomic groups.¹ Some of the potential consequences of Early Childhood Caries, other than demineralization and degradation of primary and permanent teeth are- acute and chronic pain, tooth loss and malocclusion, disrupted eating and sleeping patterns, and increased healthcare costs due to compromised oral and general health of the child.¹

Breastfeeding

The Ontario Association of Public Health Dentistry (OAPHD) recognizes breastfeeding as the normal and unequalled method of feeding for infants with significant benefits to the mother and child. Breastfeeding exclusively for the first six months of life, and continued for two years or longer with appropriate complementary feeding is recommended in Canada.^{8,9,10} No other food or beverage is needed in the first six months of life.^{8,9,10} Breast milk provides the optimal nutrition to infants and toddlers, supports their growth and development, and is important for immunologic protection.^{8,9} Breastfed infants are less likely to develop illnesses such as acute otitis media, sudden infant death syndrome, and gastrointestinal and respiratory tract infections.⁸ There may even be a lower risk of obesity in breastfed kids in later life.^{7,8}

The OAPHD recommends that a mother's decision to breastfeed should be supported by all dental professionals. Mothers should have the freedom to breastfeed their baby anywhere or anytime they want.⁹

Exclusive breastfeeding- 0 to 6 months

Health Canada Joint Statement on Infant Feeding recommends exclusive breastfeeding for the first six months of life. Cue-based feeding, which means feeding whenever the baby shows signs of hunger, is considered optimal. Breastfed infants feed a minimum of 8 times in 24 hours.⁹

Vitamin D supplementation of 10 microgram (400IU) per day⁸ is advised for breastfed children to maintain adequate intake and prevent vitamin D deficiency.¹² Deficiency of vitamin D causes rickets which is characterized by skeletal deformities due to impaired mineralization of bones.¹²

For an infant less than six months of age with no teeth, the oral cavity should be cleaned with a clean, damp cloth every time they are breastfed.¹¹ This minimizes colonization of caries causing bacteria³ by keeping the oral cavity clean and also establishes an oral hygiene routine.

Introducing solid foods- 6 to 12 months

At about six months of age, iron-rich complementary solid food should be introduced into the baby's diet. The introduction of solid foods is determined by the baby's signs of readiness.¹⁰ By the time a baby is eating solid food, the baby has learned to sit up in a chair and to hold her head upright. Iron-rich foods such as meat, meat alternatives and iron fortified cereals should be the first complementary foods given.^{10,12} A variety of soft textures and soft finger foods can be offering starting at about six months of age. Frequency of feeding is based on hunger and satiety cues of the child.^{10,12} Honey and any food or drink made with honey is the only food to avoid in

the first year. Milk products such as yogurt and cheese can be introduced at six months. Whole fluid milk can be introduced from 9-12 months of age if baby is already eating iron rich foods. Water and other fluids should be given in an open cup to promote development of mature drinking skills.¹²

A significant developmental landmark during this period of development is the eruption of primary teeth into the child's oral cavity. Once the teeth start erupting, good oral hygiene becomes essential. Solid food has a tendency to stick to the teeth which later on may be acted upon by oral bacteria causing demineralization of tooth enamel. The OAPHD recommends that for long term oral health benefits, proper oral hygiene measures such as tooth brushing be initiated at this stage to decrease the risk of development of Early Childhood Caries. A child's teeth should be cleaned at least twice daily by the parent or caregiver using a soft bristled toothbrush.

12 months and beyond

Continued breastfeeding with gradually increased number of servings of complimentary food has been endorsed by Health Canada, the Canadian Paediatric Society, the Dietitians of Canada, and the Breastfeeding Committee for Canada.¹² Vitamin D supplementation should continue for as long a breastmilk remains the main milk source for the baby. Regular scheduling of meals and snacks is recommended after one year of age. Toddlers are recommended to consume a varied diet based on Canada's food guide.^{10,12} Healthy food choices include whole fruits versus fruit juice. Water should be offered to the child to satisfy thirst instead of sweetened beverages or juice to minimize tooth exposure to fermentable carbohydrates. Juice, if offered should be 100% fruit juice and only 1/2 to 3/4 cup (4 to 6 oz) per day served with a meal or snack.¹²

To maintain good oral health, emphasis should be placed on the establishment of oral hygiene habits early on in life. As cue based feeding is the preferred mode,⁹ oral hygiene becomes increasingly important to avoid continuous exposure of teeth to fermentable sugars. If teeth are not cleaned regularly, food remaining on the teeth acts as a substrate for oral bacteria to produce acids causing tooth decay. Teeth should be cleaned with a soft bristled tooth brush at least twice a day. Rice sized amount of fluoridated toothpaste should be used if there is a risk of dental decay.¹⁴ Care must be observed to prevent the child from swallowing the toothpaste. Dental floss should be used to clean contact surfaces in between teeth if needed. Parents or caregivers should perform tooth brushing and flossing to clean the child's teeth until the child learns the skills to do it on her own.

Non-nutritive sucking: Pacifiers

The Breastfeeding Committee for Canada suggests promotion of exclusive breastfeeding in an infant with no use of artificial teats or pacifiers.¹⁵ Hence any introduction of pacifiers should be delayed until breastfeeding is fully established to prevent interference in normal feeding of the infant, i.e. until 4-6 weeks.^{16,18,20} Pacifiers may have a protective effect against Sudden Infant Death Syndrome (SIDS) up to 12 months of age when it is most likely to occur.^{16,17,18,19,20}

Evidence has been inconclusive about the association between the use of pacifiers and early weaning from breastfeeding and dental malocclusion.^{16,18,19} Pacifier use should be restricted in children with recurrent and chronic otitis media.^{17,19} . If choosing to give a pacifier, it should never be sugar coated or dipped in a sweetened fluid.^{11,19} Sweetened pacifiers expose the infant's teeth to fermentable carbohydrates which may be acted upon by oral bacteria to cause dental decay.

Use of Bottles and Sippy cups

Health Canada suggests use of an open cup once the child is six months old instead of a bottle or sippy cup. It is also strongly recommended to avoid putting the child to bed with a bottle or sippy cup.^{8,11} Sippy cups should only contain small amounts of water and should not be used with other liquids. If the child is being fed with a bottle, transition to an open cup should be made at 12 months of age.¹²

Use of Fluoride

The OAPHD strongly supports fluoridation of community drinking water to the recommended level of 0.6-0.8 ppm fluoride for the prevention of dental caries . If water is being used to prepare formula, normal fluoridated tap water can be used for preparation without any risk of excess intake of fluoride.²¹ The OAPHD does not support the use of fluoride supplements as a public health measure when water supplies have less than the recommended 0.6 to 0.8mg of fluoride. Children at high risk for cavities may be recommended for fluoride supplements by a health practitioner only if the fluoride level in the drinking water is less than 0.3 ppm, fluoridated toothpaste is not being used regularly and the first permanent tooth has erupted.

Conclusion

The OAPHD considers the significance of providing complete and correct information to families about the benefits of breastfeeding, the social and economic costs of formula and bottle feeding, and the long term benefits of maintaining good oral health early in life. Infant feeding practices and oral hygiene habits significantly determine the future oral and general health of the child. Therefore, it is recommended that early establishment of healthy routine practices be promoted. However, parents or caregivers have the freedom to make an informed decision about feeding their child. All healthcare professionals should support the family with the personal decision they have made in a non-judgmental manner.

Resources for parents or caregivers

Best Start. Feeding Your Baby. 2013[cited 2014 Jul 7]. Available from:

http://www.beststart.org/resources/nutrition/pdf/D12-E_Feeding_your_baby_fnl_2013.pdf

Health Canada. Nutrition for Healthy Term Infants: Recommendations from Birth to Six Months.

2013[cited 2014 Jul 7]. Available from: <http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/index-eng.php>

Health Canada. Nutrition for Healthy Term Infants: Recommendations from 6 to 24 months. 2014[cited 2014 Jul 7]. Available from: <http://www.hc-sc.gc.ca/fn-an/nutrition/infant-nourisson/recom/recom-6-24-months-6-24-mois-eng.php>

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