



Breastfeeding, Bed-Sharing and Early Childhood Caries. Is There An Association? A Review of the Literature

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ABSTRACT

The purpose of this review is to describe the association between some breastfeeding practices and early childhood caries (ECC). Some factors linked with prolonged breastfeeding, such as nocturnal feeding during sleep, a cariogenic diet, or an inadequate oral hygiene, increase the risk of dental caries. The literature was reviewed for evidence that cosleeping/bed-sharing encourages ad libitum breastfeeding without cleaning the children's teeth afterwards and, therefore, these children present a higher risk of early childhood caries. Thus, many studies evaluating the association between early childhood caries and nocturnal breastfeeding were analyzed to determine if mothers shared their bed with their children and the hygiene measures applied in these cases. Surprisingly, most studies did not specify the choice of this feeding practice. Those that did ask the mother if they shared their bed with their child observed a remarkable association with the risk of development of early childhood caries. In addition, poor oral hygiene after practices were also noted. Bed-sharing is a practice that could pose a risk for early childhood caries in children who are breastfed on demand at night without adequate hygiene measures.

Keywords: Dental Caries; Child; Breast Feeding

INTRODUCTION

The cariogenic potential of human milk with approximately 7% lactose has been questioned [1]. Several recent studies have shown that breastfeeding by itself does not increase the risk of caries in infants [1,2] with the possible exception of continued feeding after the child has fallen asleep [3]. This practice is very common when the infant shares the bed with his/her mother. This review of the literature looks into all these issues that currently generate so many conflicts.

EARLY CHILDHOOD CARIES

Dental caries (tooth decay) is caused by multi-factorial and complex interactions between cariogenic bacteria in the mouth with dietary carbohydrates that produce acids and demineralize the teeth [4]. The pain and infection caused by dental caries can impact on quality of life and ability to function [5], lead to lost productivity and involve high health care costs including general anaesthesia for treatment of severe cases [6].

Early Childhood Caries (ECC) is defined as the presence of one or more decayed, missing or filled tooth surface in any primary tooth of children aged under 71 months [7]. ECC is the most prevalent dental problem in pre-schoolers [8], one of the most common causes of hospital admission and the most common cause of dental extractions under general anaesthesia [8, 9].

The evidence concerning infant feeding as a risk factor for ECC has been reviewed with different results [3,10-12]. There is controversy about what constitutes the best form of infant feeding to prevent dental caries and promote optimal dental health [13]. Harris et al. in a systematic review in 2004 identified three factors related to infant feeding as risk factors for dental caries: duration of breastfeeding greater than 18 months, used to feed or stop crying during the night, and to put the child to sleep [14].

COSLEEPING AND BED-SHARING

Cosleeping is a common parenting choice in many cultures and the norm in numerous countries. Cosleeping is defined as an infant sleeping close to his or her parent. A subset of cosleeping is bed-sharing where the infant is put to sleep in the parents' bed with them. Co-bedding refers to infants (typically twins or higher-order multiples) sharing the same bed [15,16].

In the 2011 policy statement from the American Academy of Pediatrics (AAP), healthy breastfeeding is promoted while encour-

-aging room-sharing without bed-sharing [15,16]. However, many families have their own reasons behind this decision [17]. Similarly, each family exhibits various degrees and patterns of cosleeping [18].

Health care professionals disagree about bed-sharing techniques, effectiveness and ethics because of the risk of suffocation or strangulation, but some pediatricians and breastfeeding advocates have opposed this position [19].

Research conducted in the United States indicated that mothers do choose to cosleep despite warnings against it, and that cosleeping promotes breastfeeding [20-22]. Research has shown that cosleeping encourages ad libitum breastfeeding [1].

BREASTFEEDING BENEFITS

The AAP stated that exclusive breastfeeding, defined as giving an infant only breast milk-no water, no formula and no other liquids or solid foods-is the norm against which all alternative feeding methods should be compared [23]. The 2012 AAP policy statement on breastfeeding and the use of human milk documents the many important reductions in health risks for infants and children, mothers, families and society that are attributable to breastfeeding and the use of human milk for feeding [23]. These advantages include developmental [24], economic [25,26], health, nutritional, immunological, psychological, social and environmental benefits [23]. Breastfeeding is associated with decreasing maternal risk of breast cancer, ovarian cancer, Type 2 diabetes, and higher intelligence of the child and decreased risks of infections, malocclusion of the teeth, overweight and diabetes [27,28].

Not breastfeeding according to recommendation has been associated with diarrhea and pneumonia/respiratory disease in children [29-31]. Studies showed that children who were not breastfed have a 165% higher risk of suffering from diarrhea and 107% higher risk of pneumonia than children who were exclusively breastfed [29,30]. Worldwide, not breastfeeding according to recommendation has been attributed to the death of 823,000 children and 20,000 deaths due to breast cancer each year [28].

Exclusive breastfeeding has been recommended by the World Health Organization (WHO) until the age of six months, and breastfeeding complemented with food intake is suggested until two years old [32]. However, cultural and social factors directly affect knowledge of how long a child should be breastfed for [33].

HUMAN MILK PROPERTIES

Human milk's ability to cause cavities (its cariogenicity) is a frequent topic of debate in current dental research [34]. Although one study in 2008 claimed that human milk is more cariogenic than bovine milk [35], the main consensus from dental research is that human milk is less cariogenic than bovine milk [10].

Dental research has found that human milk is not cariogenic in and of itself [2,36]. However, it may be a contributing factor to ECC [37]. Human milk was noted to be a contributing factor to caries when other factors were present such as a high-carbohydrate diet, low maternal socioeconomic status, and low fluoride use [38].

Whenever a child puts food or drink in his mouth, this causes a drop in the pH of the mouth. The mouth has a neutral pH of 7, with a critical pH of 5.5. This pH of 5.5 is termed the "critical pH" because below this pH is the "danger zone" where tooth structure begins to break down during the caries process [39].

Therefore, frequency, repeated and prolonged exposure, along with increased access to feeding while bed-sharing may invoke a significant or several prolonged choose to cosleep, and drops in the pH of the child's mouth. This significant pH drop increases the total time throughout the night spent in the "danger zone" of the Stephan curve. Dental research has shown this drop in pH is especially significant if there is already plaque on the teeth that can then result in cavity formation [40].

ECC, BREASTFEEDING AND BED-SHARING

The relationship between breastfeeding and ECC has been systematically [41] and narratively reviewed [23,42,43] with conflicting results between studies.10-12 There is controversy about what constitutes the best form of infant feeding to prevent dental caries and promote optimal dental health [13]. Consequently no definitive optimal weaning times or breastfeeding practices have been determined to specifically address the risk of dental caries.

Most studies concluded that breastfeeding up to 12 months of age is not associated with an increased risk of dental caries and, in fact, may offer some protection compared with formula. However, children who are breastfed beyond 12 months, a time during which all deciduous teeth erupt, had an increased risk of dental caries. This may be due to other factors which are linked with prolonged breastfeeding including nocturnal feeding during sleep, cariogenic foods/drinks in the diet, or inadequate oral hygiene practices [44].

Nocturnal breastfeeding is often used to comfort an infant or child who may then fall asleep with the nipple in their mouth. In this position, the tongue fills the mouth and holds the breast milk against the surfaces of the teeth, thereby prolonging the exposure of the substrate to the cariogenic bacteria that are attached to the teeth surfaces and hence increasing the risk of dental caries. To reduce the risk of dental caries, oral hygiene practices to remove bacterial plaque are important as more teeth erupt, but it is very difficult because older babies can suck during the night without waking their mother [44].

Despite having many studies showing the association between ECC and nocturnal breastfeeding [3-5,26,28,35,39,41,44-47] few studies in the literature have specified whether they practiced co-sleeping or bed-sharing [43, 45, 47-56].

The first study found was published in 1998 by Weerheijm et al. They observed in 96 children that the higher frequency of feedings (during the night as well as during the day) was an important factor for the development of caries [38]. As they all slept in their parent's bed most days of the week, they had easy access to feedings (especially during the night). Then, Sayegh et al. in a study with 22,569 children in 2004 found that severe caries was more common among those children who had the habit of sleeping beside the mother [37]. Similarly, van Palestein et al., in the study carried out in 2005 with 163 children (98% of them still shared a bed with their mother) indicated that nocturnal breastfeeding after the age of 12 months poses a risk of developing ECC [41]. Turton et al. have also reported higher caries experience in those infants who slept with their mother at night, or breast-fed beyond

the age of two years in a recent study with 362 children in 2015 [46].

ORAL HEALTHCARE AND HIGIENE

The AAPD recommends that a child is seen by a dentist by the age of 1 or with the eruption of the first tooth [57], but unfortunately it is common for dental care to be initiated much later in childhood [42]. Thus, it could be necessary to provide education about anticipatory guidance and timing of oral healthcare and hygiene discussions from pediatricians and midwives. They have the opportunity to examine an infant several times within the critical first year of life. During this first year, family patterns and habits will be set. Wert et al. in 2015 interviewed 14 cosleeping and breastfeeding mothers with children from 6 months to 2 years. Approximately half of the mothers did not disclose their sleeping patterns to their pediatrician. Mothers reported few healthcare professionals initiated a discussion on cosleeping or oral hygiene for their child [58].

Numerous studies showed that when a child was in bed with the mother, breastfeeding happened more frequently [18,59]. Although the cariogenicity of human milk alone is found to be low from study to study, plaque from solid foods together with frequent and prolonged exposure to human milk complicates the analysis of caries risk [36]. Because of this situation, all breastfeeding mothers could benefit from individualized oral hygiene instruction, especially once teeth begin erupting when the child is around 7 months old. Mothers who breastfeed children with teeth throughout the night need to know how important it is to start out with a "clean slate" at bedtime. It could be necessary that the nighttime brushing routine is effective to remove plaque from every surface of the teeth [58]. Mothers should be instructed to wipe the teeth off at the end of the feeding, rather than letting the milk residue sit on the teeth. They could keep a clean washcloth and water next to her bed and quickly rub as many of the surfaces of the teeth as possible once the child finishes a feeding. Although this may not be as thorough as brushing the teeth properly, this extra step should help to rid the teeth of excess milk residue without completely disrupting the child [58]. Santos and Soviero in a study with 80 children from 0 to 36 months in 2002 found that among the parents, only 3.3% cleaned their children's teeth even after nocturnal feeding at night [56].

FUTURE RECOMMENDATIONS

The prevention of ECC depends on multidisciplinary efforts, involving different healthcare professionals (dentists, pediatricians, nurses, primary healthcare workers, gynecologists...). Strategies providing the population with information and encouraging families to change their attitudes towards oral health should be implemented. The information should be practical and objective so that families feel capable of inserting preventive attitudes in their lives [56].

It would be very interesting that parents should be provided with information on dental care during pregnancy and during the first year of the baby, as this would favor the scheduling of an early dental appointment for the baby. Furthermore, it would be easier to prevent inappropriate habits than trying to eliminate them after they have been included in the daily routine [58].

REFERENCES

1. Mohebbi SZ, Virtanen JI, Vahid-Golpayegani M, Vehkalahti MM. Feeding habits as determinants of early childhood caries in a population where prolonged breastfeeding is the norm. *Community Dent Oral Epidemiol.* 2008; 36: 363-369. <https://goo.gl/urh3Gq>
2. Lida H, Auinger P, Billings RJ, Weitzman M. Association between infant breastfeeding and early childhood caries in the United States. *Pediatrics.* 2007; 120: 944-952. <https://goo.gl/648QXQ>
3. Valaitis R, Hesck R, Passarelli C, Sheehan D, Sinton J. A systematic review of the relationship between breastfeeding and early childhood caries. *Can J Public Health.* 2000; 91: 411-417. <https://goo.gl/V6zHqp>

4. Selwitz RH, Ismail AI, Pitts NB. Dental caries. *Lancet*. 2007; 369: 51–59. <https://goo.gl/UarSrG>
5. Sheiham A. Dental caries affects body weight, growth and quality of life in pre-school children. *Br Dent J*. 2006; 201: 625–626. <https://goo.gl/HHTbfM>
6. Casamassimo PS, Thikkurissy S, Edelstein BL, Maiorini E. Beyond the dmft: the human and economic cost of early childhood caries. *J Am Dent Assoc*. 2009; 140: 650–657. <https://goo.gl/SE4fkX>
7. American Academy of Pediatric Dentistry. Policy on early childhood caries (ECC): classifications, consequences, and preventive strategies. *Pediatr dent*. 2017-2018; 39: 59-61. <https://goo.gl/QzAHxf>
8. Public Health England. In: Wellington House (ed). National dental epidemiology programme for England: oral health survey of five-year-old children 2012. London 2013. 7-15.
9. Gussy MG, Waters EG, Walsh O, Kilpatrick NM. Early childhood caries: Current evidence for a etiology and prevention. *J Pediatr Child Health*. 2006; 42: 37–43. <https://goo.gl/oJ7BLB>
10. Ribeiro NM, Ribeiro MA. Breastfeeding and early childhood caries: a critical review. *J Pediatr*. 2004; 80: 199–210. <https://goo.gl/d1R9fM>
11. Salone LR, Vann WF, Dee DL. Breastfeeding: an overview of oral and general health benefits. *J Am Dent Assoc*. 2013; 144: 143–151. <https://goo.gl/Y7bsZs>
12. White V. Breastfeeding and the risk of early childhood caries. *Evid Based Dent*. 2008; 9: 86–88. <https://goo.gl/ndo6Mm>
13. Leong PM, Gussy MG, Barrow SY, de Silva-Sanigorski A, Waters E. A systematic review of risk factors during first year of life for early childhood caries. *Int J Paediatr Dent*. 2013; 23: 235–250. <https://goo.gl/U8YWV1>
14. Harris R, Nicoll AD, Adair PM, Pine CM. Risk factors for dental caries in young children: a systematic review of the literature. *Community Dent Health*. 2004; 21:71–85. <https://goo.gl/rcY18k>
15. American Academy of Pediatrics. SIDS and other sleep-related infant deaths: Expansion of recommendations for a safe infant sleeping environment. *Pediatrics*. 2011; 128: 1030-1039. <https://goo.gl/EVg6MY>
16. Moon RY, Darnall RA, Goodstein MH, Hauck FR. Task Force on Sudden Infant Death Syndrome. SIDS and other sleep-related infant deaths: expansion of recommendations for a safe infant sleeping environment. *Pediatrics* 2011; 128: 1030-1039. <https://goo.gl/DHKD5p>
17. Buswell SD, Spatz DL. Parent-infant co-sleeping and its relationship to breastfeeding. *Journal Pediatr Health Care*. 2007; 21: 22-28. <https://goo.gl/DBPRka>
18. McKenna JJ, Mosko SS, Richard CA. Bedsharing promotes breastfeeding. *Pediatrics*. 1997; 100: 214-219. <https://goo.gl/1AkRSp>
19. Mace S. Where should babies sleep? *Community Pract* 2006; 79: 180–183. <https://goo.gl/QXK5Yt>
20. Gettler LT, McKenna JJ. Evolutionary perspectives on mother-infant sleep proximity and breastfeeding in a laboratory setting. *Am J Phys Anthropol*. 2011; 144: 454- 462. <https://goo.gl/K5dbo5>
21. McKenna JJ. Night waking among breastfeeding mothers and infants: Conflict, congruence or both? *Evol Med Public Health*. 2014; 1: 40-47. <https://goo.gl/tcCErV>
22. Volpe LE, Ball HL, McKenna JJ. Nighttime parenting strategies and sleep-related risks to infants. *Soc Sci Med* 2013; 79: 92-100. <https://goo.gl/eCx1TP>
23. Eidelman AI, Schanler RJ, Gartner LM, Morton J, Lawrence RA, Naylor AJ et al. American Academy of Pediatrics Section on Breastfeeding. Breastfeeding and the use of human milk. *Pediatrics*. 2005; 115: 496- 506. <https://goo.gl/gjxVEf>
24. Dee DL, Li R, Lee LC, Grummer-Strawn LM. Associations between breastfeeding practices and young children's language r skill development. *Pediatrics*. 2007; 119: 92-98. <https://goo.gl/CfEGy4>
25. Bartick M, Reinhold A. The burden of suboptimal breast-feeding in the United States: a pediatric cost analysis. *Pediatrics*. 2010; 125: 1048 - 1056. <https://goo.gl/cVa2EK>
26. United States Breastfeeding Committee. In: Economic benefits of breastfeeding. Raleigh: United States Breastfeeding Committee. 2002. 1-4.
27. Rollins NC, Bhandari N, Hajeerhoy N, Horton S, Lutter CK, Martines JC et al. Why invest, and what it will take to improve breastfeeding practices? *Lancet*. 2016; 387: 491–504. <https://goo.gl/25vEWV>
28. Victora CG, Bahl R, Barros AJD, Franca GVA, Horton S, Krasevec J et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet*. 2016; 387: 475–490. <https://goo.gl/m97U1Z>
29. Hanieh S, Ha TT, Simpson JA, Thuy TT, Khuong NC, Thoang DD et al. Exclusive breastfeeding in early infancy reduces the risk of inpatient admission for diarrhea and suspected pneumonia in rural Vietnam: a prospective cohort study. *BMC Public Health*. 2015; 15: 1166. <https://goo.gl/gVCKK>
30. Lamberti LM, Walker CLF, Noiman A, Victora C, Black RE. Breastfeeding and the risk for diarrhea morbidity and mortality. *BMC Public Health*. 2011; 11: 15. <https://goo.gl/GKVct6>
31. Lamberti LM, Zakarija-grkovi I, Walker CLF, Theodoratou E, Nair H et al. Breastfeeding for reducing the risk of pneumonia morbidity and mortality in children under two: a systematic literature review and meta-analysis. *BMC Public Health*. 2013; 13: 18. <https://goo.gl/rBxL84>
32. World Health Organization, UNICEF. Global strategy for infant and young child feeding. Geneva: World Health Organization. 2003. 5-12.
33. Martin-Bautista E, Gage H, von Rosen-von Hoewel J, Jakobik V, Laitinen K, Schmid M et al. Lifetime health outcomes of breast-feeding: a comparison of the policy documents of five European countries. *Public Health Nutr*. 2010; 13: 1653–1662. <https://goo.gl/D36m38>
34. Arora A, Scott JA, Bhole S, Do L, Schwarz E, Blinkhorn AS. Early childhood feeding practices and dental caries in pre-school children: A multi-Centre birth cohort study. *BMC Public Health*. 2011; 11: 28. <https://goo.gl/zQcGTv>
35. Tyagi R. The prevalence of nursing caries in Davangere preschool children and its relationship with feeding practices and socioeconomic status of the family. *J Indian Soc Pedod Prev Dent*. 2008; 26: 153-157. <https://goo.gl/gQM6Hx>
36. Kramer MS, Vanilovich I, Matush L, Bogdanovich N, Zhang X, Shishko G. The effect of prolonged and exclusive breast-feeding on dental caries in early school-age children. New evidence from a large randomized trial. *Caries Res*. 2007; 41: 484-488. <https://goo.gl/1FQUXU>
37. Sayegh A, Dini EL, Holt RD, Bedi R. Oral health, sociodemographic factors, dietary and oral hygiene practices in Jordanian children. *J Dent*. 2005; 33: 379-388. <https://goo.gl/kms37W>
38. Weerheijm KL, Uyttendaele-Speybroeck BF, Euwe HC, Groen HJ. Prolonged demand breastfeeding and nursing caries. *Caries Res*. 1988; 32: 46-50. <https://goo.gl/6miBQW>
39. Stephan RM, Hemmens ES. Studies of changes in pH produced by pure cultures of oral microorganisms; effects of varying the microbic cell concentration; comparison of different microorganisms and different substrates; some effects of mixing certain microorganisms. *J Dent Res*. 1947; 26: 15-41. <https://goo.gl/A1rzUX>
40. Yonezu T, Yotsuya K, Yakushiji M. Characteristics of breastfed children with nursing caries. *Bull Tokyo Dent Coll*. 2006; 47: 161-165. <https://goo.gl/44YMDu>
41. Van Palenstein Helderman WH, Soe W, van't Hof MA. Risk factors of early childhood caries in a Southeast Asian population. *J Dent Res*. 2006; 85: 85-88. <https://goo.gl/DBdqEX>

42. Divaris K, Vann WF Jr, Baker AD, Lee JY. Examining the accuracy of caregivers' assessments of young children's oral health status. *J Am Dent Assoc.* 2012; 143: 1237- 1247. <https://goo.gl/Vwhr3a>
43. Feldens CA, Giugliani ERJ, Vigo A, Vitolo MR. Early feeding practices and severe early childhood caries in four-year-old children from southern Brazil: a birth cohort study. *Caries Res.* 2010; 44: 445-452. <https://goo.gl/Ex9Ty1>
44. Tham R, Bowatte G, Dharmage SC, Tan DJ, Lau MXZ, Dai X, Allen KJ, Lodge CJ. Breastfeeding and the risk of dental caries: a systematic review and meta-analysis. *Acta paediatr.* 2015; 104: 62-84. <https://goo.gl/VxD7WC>
45. Tanaka K, Miyake Y, Sasaki S, Hirota Y. Infant feeding practices and risk of dental caries in Japan: the Osaka maternal and child health study. *Pediatr Dent.* 2013; 35: 267-271. <https://goo.gl/LtHKbw>
46. Turton B, Durward C, Manton D, Bach K, Yos C. Socio-behavioural risk factors for early childhood caries (ECC) in Cambodian preschool children: a pilot study. *Eur Arch Paediatr Dent.* 2016; 17: 97-105. <https://goo.gl/Y9QYe6>
47. Vazquez-nava F, Vazquez RE, Saldivar GA, Beltran GF, Almeida AV, Vazquez RC. Allergic rhinitis, feeding and oral habits, toothbrushing and socioeconomic status. *Caries Res.* 2008; 42: 141-147. <https://goo.gl/TQiQ92>
48. Gopal S, Chandrappa V, Kadidal U, Rayala C, Vegesna M. Prevalence and predictors of early childhood caries in 3- to 6- year- old south Indian children – a cross sectional descriptive study. *Oral Health Prev Dent.* 2016; 14: 267- 273. <https://goo.gl/CfU7QK>
49. Johansson I, Holgersson PL, Kressin NR, Nunn ME, Tanner AC. Snacking habits and caries in Young children. *Caries Res.* 2010; 44: 421-430. <https://goo.gl/HCC7np>
50. Nakayama Y, Mori M. Association between nocturnal breastfeeding and snacking habits and the risk of early childhood caries in 18- to 23- month- old Japanese children. *J Epidemiol.* 2015; 25: 142-147. <https://goo.gl/RkEuRX>
51. Olotasi OO, Inem V, Sofola OO, Prakash P, Sote EO. The prevalence early childhood caries and its associated risk factors among preschool children referred to a tertiary care institution. *Niger J Clin Pract.* 2015; 18: 493-501. <https://goo.gl/1mi6eZ>
52. Ozen B, Van Strijp AJP, Ozer L, Olmus H, Genc A, Cehreli SB. Evaluation of possible associated factors for early childhood caries and severe early childhood caries: a multicenter cross-sectional survey. *J Clin Pediatr Dent.* 2016; 40:118-123. <https://goo.gl/6qL45R>
53. Perera PJ, Fernando MP, Warnakulasooriya TD, Ranathunga N. Effect of feeding practices on dental caries among preschool children: a hospital based analytical cross sectional study. *Asia Pac J Clin Nutr.* 2014; 23: 272-277. <https://goo.gl/yCQfd7>
54. Prakash P, Subramaniam P, Durgesh BH, Konde S. Prevalence of early childhood caries and associated risk factors in preschool children of urban Bangalore, India: a cross-sectional study. *Eur J Dent.* 2012; 6: 141-152. <https://goo.gl/Qzyj9h>
55. Retnakumari N, Cyriac G. Childhood caries as influenced by maternal and child characteristics in preschool children of Kerala- an epidemiological study. *Contemp Clin Dent.* 2012; 3: 2-8. <https://goo.gl/KhNcP5>
56. Santos AP, Soviero VM. Caries prevalence and the risk factors among children aged 0 to 36 months. *Pesqui Odontol Bras.* 2002; 16: 203-208. <https://goo.gl/aQLT5S>
57. American Academy of Pediatric Dentistry. Guideline on periodicity of examination, preventive dental services, anticipatory guidance/counseling, and oral treatment for infants, children, and adolescents. *Pediatric Dent* 2009; 30: 112-118. <https://goo.gl/7PnDRo>
58. Wert KM, Lindemeyer R, Spatz DL. Breastfeeding, co-sleeping and dental health advice. *MCN Am J Matern Child Nurs.* 2015; 40:174-179. <https://goo.gl/SqvrdP>
59. Blair PS, Heron J, Fleming PJ. Relationship between bed sharing and breastfeeding: Longitudinal, population-based analysis. *Pediatrics.* 2010; 126: 1119 –1126. <https://goo.gl/wiycCh>