



International Lactation Consultant Association

Position Paper on Infant Feeding

The International Lactation Consultant Association (ILCA) affirms the right of all women to breastfeed their infants, of all infants to receive human milk, and of all men and women to assist mothers in protecting these rights. Many unnecessary obstacles stand in the way of women who wish to breastfeed. ILCA seeks to draw attention to key findings of recent research and the clinical implications of those findings. References noted below include research with a variety of methodologies ranging from carefully controlled clinical trials to small descriptive studies. ILCA's recommendations are based on rigorous published research wherever possible and on collected experience and wisdom where gaps in research-based knowledge exist. ILCA invites those concerned with the well-being of families to consider these statements and to enter into dialogue with the Association over possible future amendments and additions. ILCA urges all health workers to adopt this position statement as their own, and to work to implement its recommendations as standard practice in their own setting.

1 Research indicates that a woman's knowledge about infant feeding is significantly linked with a decision to breastfeed. Hence, ILCA believes that almost all women would choose to breastfeed their infants if they were fully informed.¹⁻³ ILCA also believes that failure to provide information about the potential risks of artificial feeding⁴ and disproportionate emphasis on the perceived drawbacks of breastfeeding are major reasons for women's decisions not to breastfeed. Other factors include embarrassment, unnecessary rules, fear of feeling tied down, and returning to paid employment.⁵

2 Research indicates that almost all women, regardless of age, parity, ethnicity, breast size, diet, or socioeconomic status, experience lactogenesis following the birth of their infants.⁶ Research also indicates that lactation failure is more often iatrogenic or culturally induced than physiological or inevitable.⁷⁻¹⁰ Hence, ILCA believes that early instruction should emphasize measures to ensure an abundant milk supply.

3 Research indicates that almost all women are physically capable of nourishing their infants on breastmilk alone for the first half-year,¹¹ and that this results in fewer infections and allergies than other patterns of feeding.¹²⁻¹⁴ Hence, ILCA believes that women should be encouraged to give only breastmilk to their infants for the first six months of life.

4 Research indicates that women feel strongly about breastfeeding. ILCA believes that the act of nurturing a child at the breast is a profoundly significant part of a woman's reproductive experience and has consequences for her self-concept and sense of worth.¹⁵⁻¹⁸ The provision of breastmilk alone, while worthwhile, is not as psychologically powerful as the process of suckling. ILCA further believes that breastfeeding affects the infant's later psychological and cognitive functioning.¹⁹⁻²² ILCA calls on psychologists and other behavioral scientists to consider these variables in their research investigations.

5 Research indicates that many women lack knowledge of the basic skills of breastfeeding, an art lost in some cultures during decades of public bottle-feeding. Hence, ILCA believes that to prevent problems, women need sensitive and skilled assistance in learning to breastfeed,²³ and that follow-up care should continue until their infants are breastfeeding effectively.²⁴⁻²⁸

6 Research indicates that optimal positioning is essential to the comfortable establishment of lactation.²⁹⁻³¹ Hence, ILCA believes that it is the professional responsibility of staff entrusted with the care of any mother and baby to be skilled in the basics of positioning and knowledgeable about the early signs of breastfeeding problems. ILCA believes that it is the responsibility of institutions to validate these competencies among their staff and to routinely maintain data on breastfeeding success rates.³²⁻³⁵

7 Research indicates that nipple trauma and engorged breasts occur frequently where women receive inappropriate advice and care³⁶⁻³⁸ ILCA believes that institutions whose clients experience such problems would benefit from reviewing routine procedures and postdischarge care plans for breastfeeding women and providing relevant staff education.

8 Research indicates that pain during breastfeeding is preventable in most circumstances.³⁹⁻⁴² Hence, ILCA believes that breastfeeding should not be painful; when it is, an appropriate investigation will almost always reveal the cause.

9 Research indicates that, with appropriate support, teenage mothers can overcome barriers and breastfeed successfully.⁴³⁻⁴⁶ ILCA believes that adolescents should be encouraged to breastfeed, assisted to establish lactation, and actively supported in continuing to breastfeed after their return to school. Schools should evaluate their facilities with the support of breastfeeding adolescent mothers in mind.

10 Research indicates that almost all infants are born able to suckle the breast but must convert an instinctive behavior into a learned one during the crucial post-birth period.⁴⁷ This includes infants as young as 32 weeks gestational age.⁴⁸⁻⁵⁰ Hence, ILCA believes that women and their infants should be kept in skin-to-skin contact after birth, and that breastfeeding should begin as soon after birth as the baby indicates a desire to breastfeed.

11 Research indicates that obstetric medication and anesthesia interfere with the innate feeding behavior of the infant.⁵¹⁻⁵³ Hence, ILCA believes that all such medication should be used as sparingly as is compatible with maternal and infant health.⁵⁴

12 Research indicates that breastfeeding outcomes are better when infants have unrestricted access to the breast in the postpartum period.⁵⁵⁻⁵⁸ Hence, ILCA believes that, in the immediate postpartum period and beyond, infants should be permitted to suckle for as long and as often as they wish, and that they should not be forced into schedules of any kind, provided suckling is effective.

13 Research indicates that keeping mothers and infants together 24 hours a day in hospital facilitates the establishment of lactation.⁵⁹⁻⁶³ Hence, ILCA believes that this should be the standard of postpartum care in the absence of serious medical contraindications.

14 Research shows that routine supplementation of any kind represents unnecessary risks to the infant,⁶⁴⁻⁷⁰ is detrimental to a woman's self-confidence and her milk supply,^{71,72} and is wasteful and costly.^{73,74} ILCA recommends that all possible avenues of management be explored before the use of breastmilk substitutes is advised.⁷⁵⁻⁸⁰ ILCA believes that parents have a right to know if their infant will be supplemented. Hence, ILCA recommends that the mother's informed consent be sought prior to medically indicated supplementation.⁸¹

15 Research indicates that supplementation of the infant with breastmilk substitutes in the first half year of life is sometimes necessary, but that weight gain should not be the sole criterion

for this decision.⁸²⁻⁸⁷ Hence, ILCA believes that a careful clinical evaluation of each individual case should precede any advice to supplement in the first half-year of life. ILCA calls for more research into medical indications for supplementation of the breastfed infant.

16 Research suggests that elevated bilirubin in newborn infants may be beneficial,⁸⁸ since bilirubin is a powerful antioxidant.⁸⁹ Research indicates that markedly elevated bilirubin levels in the breastfed neonate are often caused by restricted feeding patterns,^{90,91} water supplementation⁹²⁻⁹⁴ or ineffective milk transfer.⁹⁵ Hence, ILCA believes that measures which increase intake of breastmilk are appropriate in such situations. Research indicates that non-pathologic jaundice in the healthy term neonate is not hazardous and necessitates neither interruption of breastfeeding nor supplementation with breastmilk substitutes.⁹⁶⁻⁹⁹ Research also demonstrates that other interventions, such as interrupted breastfeeding and phototherapy, often result in lactation failure and a continued perception of the infant as vulnerable to illness or injury.¹⁰⁰⁻¹⁰² Hence, ILCA believes that institutions with appropriate breastfeeding management policies and practices will reduce their need for costly interventions.¹⁰³⁻¹⁰⁷

17 Research indicates that breastmilk jaundice, although it may persist for many weeks, is a benign condition.¹⁰⁸⁻¹¹² Hence, ILCA believes that interrupting breastfeeding solely to confirm the diagnosis of breast milk jaundice in an otherwise healthy and thriving infant is rarely justified. ILCA believes that such a potentially hazardous intervention must be carefully undertaken after fully informing the mother of the value of continued lactation, the importance of continuing to express her milk, and the potential risks of introducing breastmilk substitutes.

18 Research indicates that the use of donated banked human milk has historically been, and remains, a relatively safe and effective option for infants unable to be breastfed by their mothers.¹¹³⁻¹¹⁸ Hence, ILCA believes that women should be informed about this option and their choice facilitated, regardless of the infant's ability to tolerate breastmilk substitutes. ILCA also believes that human milk banking should be encouraged whenever possible.

19 Research indicates that established lactation may be controlled by a previously unrecognized nonhormonal feedback mechanism in the breast, rather than by hormone secretion.^{119,120} ILCA believes that research which further increases understanding of this complex process and technology that enables the accurate measurement of maternal lactational capacity^{121,122} and infant intake^{123,124} are urgently needed.

20 Research indicates that separation of a mother from her infant imposes severe stresses on both and makes continued lactation more difficult.^{125,126} ILCA believes that whenever a breastfeeding mother and infant must be separated, appropriate facilities for the continuation of breastfeeding should be provided. In addition, ILCA calls on all health care institutions, including hospital psychiatric units,¹²⁷ to take the

lead in making their facilities supportive of continued breastfeeding for hospitalized¹²⁸ or employed women.¹²⁹⁻¹³⁷

21 Research indicates that the gastric emptying time of breast milk is significantly less than that of other foods and the hazards of aspiration considerably reduced.¹³⁸ In addition, depriving sick infants of the comfort of the breast increases their stress.¹³⁹ Hence, ILCA believes that, under normal circumstances, breastfed infants requiring surgery should be permitted to breastfeed until two hours before surgery and as soon thereafter as they are willing.¹⁴⁰

22 Both basic physiology and clinical evidence indicate that the use of pacifiers (dummies),^{141,142} bottle teats (artificial nipples),¹⁴³ or any oral object other than the breast in the first weeks of life can lead to disturbed suckling patterns in some infants.¹⁴⁴⁻¹⁴⁶ Research also indicates that nipple shield use leads to decreased milk supply.¹⁴⁷ Hence, ILCA believes that research into the consequences of oral objects used to feed the neonate should become a priority, and that such objects should not be used until they are proven not to interfere with breastfeeding. ILCA calls on speech pathologists, neurodevelopmental specialists, and others to distinguish clearly between artificially and naturally fed infants in all studies of later speech and orthodontic defects.

23 Research indicates that most breastfeeding problems¹⁴⁸⁻¹⁵² can be solved without the use of expensive medical devices and technology.^{153,154} Therefore, the short and long-term consequences of particular infant feeding products, devices, and techniques should be independently assessed, and health workers should critically evaluate claims about such products. ILCA believes that health workers should use technological solutions only where clearly appropriate and for the shortest time possible. Use should be accompanied by an explanation of risks and benefits, and clear written and verbal instructions.

24 Research indicates that, although there is little evidence of harm from medication given to the breastfeeding mother, most have the potential to affect the infant.¹⁵⁵⁻¹⁵⁷ Hence, ILCA believes that medication should be prescribed only when necessary. Care must be taken both to select the least harmful¹⁵⁸⁻¹⁶² alternative and to educate the mother in its safe use. ILCA also believes that the known risks of not breastfeeding should be taken into consideration when discussing use of possible medication or exposure to one or more environmental contaminants.

25 Research indicates that the abuse of alcohol during lactation may be harmful not only to the mother but also to her infant.^{163,164} Hence ILCA believes that women should be advised of such risks.

26 Research indicates that active or passive smoking during lactation decreases milk supply and is harmful both to the breastfeeding mother¹⁶⁵⁻¹⁶⁹ and to her infant.¹⁷⁰⁻¹⁷⁴ Hence, ILCA believes that women should be advised of such risks. ILCA believes that health workers should play an active role in assisting women to reduce or cease smoking and to reduce the infant's smoke exposure from all sources.

27 Research indicates that breast milk contains many specific and non-specific factors that may protect against HIV infection¹⁷⁵⁻¹⁷⁷ or influence the course of the disease.¹⁷⁸⁻¹⁸² Hence, ILCA calls for more research to evaluate the risk of HIV transmission via breast milk as well as the potential prophylactic or therapeutic uses of human milk. ILCA believes that advice to HIV-positive women should reflect the current state of scientific knowledge.¹⁸³⁻¹⁹¹

28 Research indicates that women who have undergone breast surgery may have difficulties with breast-feeding.¹⁹²⁻¹⁹⁸ ILCA believes that physicians performing such surgery on a young or fertile woman should use the procedure least likely to create later problems, and then only after fully informing the woman of the future potential risk to her ability to breastfeed. ILCA also believes that records of the surgical procedures carried out should remain available to the woman in later years to assist in her care during lactation. ILCA calls upon the medical profession to more fully evaluate the need, the procedures used, the costs (physical and psychological), and the long-term risks of such surgery.

29 Research indicates that women's milk protects infants from infectious,¹⁹⁹⁻²⁰¹ metabolic, allergic²⁰² and inflammatory disease,²⁰³ including but not limited to necrotising enterocolitis,²⁰⁴ nursing bottle caries,²⁰⁵ otitis media,^{206,207} childhood diabetes,^{208,209} celiac disease,²¹⁰ and lymphomas.²¹¹ Hence, ILCA believes that all research into disease patterns should include a careful investigation of the infant feeding history.

30 Research indicates that infants with diarrhea recover faster if human milk is provided.²¹²⁻²¹⁶ Hence, ILCA recommends that breastfeeding or the provision of human milk be routine if diarrhea occurs in the breastfed infant.

31 Research indicates that the duration of human lactation worldwide is two or more years, and that both mothers and their older children benefit from prolonged breastfeeding.^{217,218} Hence, ILCA believes that women should breastfeed for as long as they wish.

32 Research indicates that breastfeeding during pregnancy, tandem breastfeeding, relactation²¹⁹⁻²²² and induced lactation^{223,224} do occur and, indeed, are usual and beneficial in many cultural contexts. Hence, ILCA believes that women have a right to information about these options where relevant.

33 Research indicates that, in general, disease rates are higher in child care institutions than in family homes.²²⁵⁻²³⁰ Hence, ILCA believes that the provision of maternal breastmilk for infants in child care is to be encouraged, and that child care workers should be educated in its value, its care, and its use.

34 Research indicates that social structures, especially parental leave¹³⁶ and job protection provisions,¹³⁷ have a major impact on women's ability to breastfeed. Hence, ILCA believes that breastfeeding women should be protected legally and enabled financially either to stay at home with their infants or to return to paid employment while continuing to breastfeed.

35 Research indicates that women who breastfeed are at less risk of maternal maladjustment,²³¹⁻²³³ osteoporosis,²³⁴⁻²³⁶ breast²³⁷⁻²⁴⁰ and ovarian cancer.^{241,242} Hence ILCA believes that women should be encouraged to breastfeed in order to protect their own health.

36 Research indicates that breastfeeding prevents more births worldwide than all other means of contraception. The woman who is exclusively breastfeeding and amenorrhoeic is at very small risk of conception in the first six months after birth.²⁴³⁻²⁵⁴ Hence, ILCA believes that women should be informed about the fertility reducing effects of breastfeeding.²⁵⁵ Furthermore, contraceptive methods offered to the lactating mother should be compatible with continued lactation.²⁵⁶

37 Research indicates that women who do not breast feed may be in an abnormal postpartum hormonal state.²⁵⁷ Hence, ILCA calls for research to investigate possible negative postpartum health consequences for women who do not breastfeed.

38 Research indicates that education for health professionals has not dealt adequately with either normal lactation or its problems.²⁵⁸⁻²⁶⁶ Hence, ILCA believes that women needing special assistance with breastfeeding should be referred to an appropriate individual, institution, or agency.²⁶⁷⁻²⁶⁹ ILCA further believes that lactation should be included in the basic curricula of all maternal and child health education programs and should be taught by knowledgeable persons familiar with current research and management practices.

39 Research indicates that the manufacture and use of breast milk substitutes has profound negative effects on the world environment by increasing fertility, consuming energy and resources, and generating pollution.^{270,271} Hence, ILCA believes that those concerned with the future of our planet should become advocates for breastfeeding and the use of human milk rather than that of ruminant animals or plant products.

40 Research indicates that many infant food and equipment companies market their products in ways that affect women's choices about infant feeding.²⁷²⁻²⁷⁶ Hence, ILCA proposes that the International Code of Marketing of Breast-milk Substitutes be considered a minimum standard for assessing industry marketing practice.

41 Research indicates that human milk is a natural resource of unequalled value. Consuming even the poorest quality foods, women can produce an infant food of unrivalled quality which involves very little waste of either maternal or infant energy²⁷⁷⁻²⁸³ and has the potential to reduce costs in the health care sector of every country. Manufacturing a substitute for this food requires a significant diversion of national and international resources, affecting the balance of international trade and the debt burden of poor countries. Hence, ILCA believes that research into the national and international value of women's milk should become a worldwide priority.

REFERENCES

1. Hartley BM, O'Connor ME: Evaluation of the 'Best Start' breastfeeding education program. *Arch Pediatr Adolesc Med* 150(8):868-871, 1996
2. Lawson K, Tullock MI: Breastfeeding duration: prenatal intentions and postnatal practices. *J Adv Nurs* 22(5):841-849, 1995
3. Tamagond B, S K: Effect on neonatal feeding practices of a program to promote colostrum feeding in India. *J Nutr Educ* 24:29-32, 1992
4. Walker M: A fresh look at the risks of artificial infant feeding. *J Hum Lact* 9:97-107, 1993
5. Bryant CA, Coreil J, D'Angelo SL, et al: A strategy for promoting breastfeeding among economically disadvantaged women and adolescents; *In* Chute GE, Ed: *Breastfeeding*. *Clin Iss Perinat Women's Health Nurs* 3:723-30, 1992
6. Kulski J, Smith M, Hartmann PE: Normal and Caesarian Section delivery and the initiation of lactation in women. *Austral J Exp Biol Med Sci* 59(4):405-12, 1981
7. Keamey MH: Identifying psychosocial obstacles to breast-feeding success. *JOGNN* 17:98-105, 1988
8. Avoa A, Fischer PR: The influence of perinatal instruction about breastfeeding on neonatal weight loss. *Pediatrics* 86:313-15, 1990
9. Danner S: How do we influence the breastfeeding decision? *Birth* 18:227-28, 1991
10. Valdes V, Perez A, Labbok M, et al: The impact of a hospital and clinic-based breastfeeding programme in a middle class urban environment. *J Trop Pediatr* 38:142-51, 1993
11. Dewey KG, Heinig MJ, Nommsen LA, et al: Maternal versus infant factors related to breast milk intake and residual milk volume: the DARLING study. *Pediatrics* 87:829-37, 1991
12. Beaudry M, Dufour R, Marcoux S: Relation between infant feeding and infections during the first six months of life. *J Pediatr* 126(2):191-197, 1995
13. Newman J. How breastmilk protects newborns. *Sci Am* 126(2):191-197, 1995
14. Businco L, Cantani A: Prevention of childhood allergy by dietary manipulation. *Clin Exper Mlergy* 210 (Suppl 3):9-14, 1990
15. Hewat RJ, Ellis DJ: Breastfeeding as a maternal-child team effort: women's self perceptions. *Health Care Wom mt* 5:437-52, 1984
16. Stotland NL: Psychological implications of recent developments in peripartum care. *Adv Psychosom Med* 12:91-104, 1985
17. Lawrence RA, Lawrence RM: *Breastfeeding: a guide for the medical profession*, fifth edition. Mosby, St. Louis, Mo; 1999
18. Pridham KF, Chang AS: Transition to being a mother of a new infant in the first 3 months: maternal problem solving and self appraisals. *J Adv Nurs* 17:204-16, 1992
19. Johnson DL, Swark PR, Howie VM, et al: Breastfeeding and children's intelligence. *Psych Reports* 79:1179-1185, 1996

20. Horwood LS, Fergusson DM: Breastfeeding and later cognitive and academic outcomes. *Pediatrics* 101 eq, 1998
21. Lucas A, Morley R, Cole TJ, et al: Breast milk and subsequent intelligence quotient in children born preterm. *Lancet* 339 (8788): 261-64, 1992
22. Rogan WJ, Gladen BC: Breast-feeding and cognitive development. *Early Hum Dev* 31:181-93, 1993
23. Valaitis RK, Shea E: An evaluation of breastfeeding promotion literature: does it really promote breastfeeding? *Can J Public Health* 84:24-27, 1993
24. Serafino-Cross P and Donovan PR: Effectiveness of professional breastfeeding home support. *J Nutr Education* 24:117-122, 1992
25. Kearney MH, Crononenwett LR, Barrett JA: Breast-feeding problems in the first week postpartum. *Nurs Res* 39:90-95, 1990
26. McIntyre E: Breastfeeding management: helping the mother help herself *Breastfeed Rev* 1:129-33, 1991
27. Mulford C: The mother-baby assessment (MBA): An "Apgar score" for breastfeeding. *J Hum Lact* 8: 79-82, 1992
28. Righard L, Alade MO: Sucking technique and its effect on success with breastfeeding. *Birth* 19:185-89, 1992
29. Chute, G. Promoting breastfeeding success: An overview of Basic Management, NAACOG's Clinical Issues in Perinatal and Women's Health Nursing 3(4):570-582, 1992
30. Bedinghaus JM, Meinikow J: Promoting successful breast-feeding skills. *Am Fam Phys* 45:1309-18, 1992
31. Widström A-M, Tingström-Paulsson J: The position of the tongue during rooting reflexes elicited in newborn infants before the first suckle. *Acta Paediatr* 82:281-83, 1993
32. Wright A, Rice S, Wells S: Changing Hospital Practices to Increase the Duration of Breastfeeding. *Pediatric* 97(5):669-675, 1996
33. Anderson B, Ceden E: Nurses' knowledge of breastfeeding. *JOGNN* 20:58-64, 1991
34. Lewinski CA: Nurses' knowledge of breastfeeding in a clinical setting. *J Hum Lact* 8:143-48, 1992
35. Woolridge MW: Aetiology of sore nipples. *Midwifery* 2: 172-76, 1986
36. Ziemer MM, Pigeon JG: Skin changes and pain to the nipple during the first week of lactation. *JOGNN Nurs* 22(3):247-255, 1993
37. Storr GB: Prevention of nipple tenderness and breast engorgement in the postpartal period. *JOGNN* 17:203-9, 1988
38. Moon JL, Humenick SS: Breast engorgement: contributing variables and variables amenable to nursing intervention. *JOGNN* 18:309-15, 1989
39. Drewett RJ, Kahn H, Parkhurst S, et al: Pain during breast-feeding: the first three months postpartum. *J Reprod Inf Psychol* 5:183-86, 1987
40. Walker M, Driscoll JW: Sore nipples: the new mother's nemesis. *MCN* 14:260-65, 1989
41. Hopkinson J: Interfeeding breast pain: a case report. *J Hum Lact* 8:149-51, 1992
42. Lawlor-Smith L, Lawlor-Smith C: Vasospasm of the nipple—a manifestation of Raynaud's phenomenon. *Br Mod J* 314:644-5, 1997.
43. Friel JK, Hudson NI, Banour S, et al: The effect of a promotion campaign on attitudes of adolescent females towards breastfeeding. *Can J Public Health* 80:195-99, 1989
44. Gregg JEM: Attitudes of teenagers in Liverpool to breast feeding. *Br Med J* 299:147-48, 1989
45. Peterson CE, DaVanzo J: Why are teenagers in the United States less likely to breast-feed than older women? *Demography* 29: 431-50, 1992
46. Podgurski M: Supporting the breastfeeding teen. *J Perinat Ed* 4(2):11-14, 1995
47. Lindenberg CS, Artola RC, Jimenez V: The effect of early postpartum mother-infant contact and breastfeeding promotion on the incidence and continuance of breastfeeding. *Int J Nurs Stud* 27:179-86, 1990
48. Whitelaw A, Heisterkamp G, Sleath K, et al: Skin to skin contact for very low birthweight infants and their mothers. *Arch Dis Child* 63:1377-81, 1988
49. deLeeuw R, Cohn EM, Dunnebie EA, et al: Physiological effects of kangaroo care in very small preterm infants. *Biol Neonate* 59:149-55, 1991
50. Johanson RB, Spencer SA, Rolfe P, et al: Effect of post-delivery care on neonatal body temperature. *Acta Paediatr* 81:859-63, 1992
51. Kuhnert BR, Linn PL, Kuhnert PM: Obstetric medication and neonatal behavior. *Clin Perinatol* 12:423-40, 1985
52. Matthews MK: The relationship between maternal labour analgesia and delay in the initiation of breastfeeding in healthy neonates in the early neonatal period. *Midwifery* 5:3-10, 1989
53. Sepkoski CM, Lester BM, Ostheimer GW, et al: The effects of maternal epidural anesthesia on neonatal behavior during the first month. *Dev Med Child Neurol* 34:1072-80, 1992
54. Ito S, Blajchman A, Stephenson M, et al: Prospective follow-up of adverse reactions in breast-fed infants exposed to maternal medication. *Am J Obstet Gynecol* 168: 1393-99, 1993
55. Wiberg B, Humblek, deChateau P: Long term effect on mother-infant behavior of extra contact during the first hour post partum v follow up at three years. *Sc and J Soc Med* 17:181-191, 1989
56. Widstrom AM, Wahlberg V, Matthiesen AS, et al: Short-term effects of early suckling and touch of the nipple on maternal behavior. *Early Hum Dev* 21:153-163, 1990
57. Klaus MH: The frequency of suckling: a neglected but essential ingredient of breastfeeding. *Obstet Gynecol Clin North Am* 14: 623-33, 1987
58. Yamauchi Y, Yamanouchi I: Breast-feeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics* 86: 171-75, 1990

59. Keefe MR: The impact of infant rooming-in on maternal sleep at night. *JOGNN* 17:122-26, 1988
60. Norr KF, Roberts JE, Freese U: Early postpartum rooming-in and maternal attachment behaviors in a group of medically indigent primiparas. *J Nurs Midwif* 34:85-91, 1989
61. Yamauchi Y, Yamanouchi I: The relationship between rooming-in/not rooming-in and breast-feeding variables. *Acta Paediatr Scand* 79:1017-22, 1990
62. Waldenström U, Swenson Å: Rooming-in at night in the postpartum ward. *Midwifery* 7:82-89, 1991
63. Perez-Escamilla R, Segura-Millán S, Pollitt E, et al: Effect of the maternity ward system on the lactation success of low-income urban Mexican women. *Early Hum Dev* 31:25-40, 1992
64. The American Academy of Pediatrics and the American College of Obstetricians and Gynecologists: Guidelines for Perinatal Care. 3rd ed. Washington, DC: ACOG, AAP 183, 1992
65. American Academy of Pediatrics, Committee on Nutrition: Pediatric Nutrition Handbook, 3rd ed. Elk Grove Village, IL: AAP; 7, 1993
66. Snell BJ, Krantz M, Keeton R, et al: The association of formula samples given at hospital discharge with the early duration of breastfeeding. *J Hum Lact* 8: 67-72, 1992
67. Frank DA, Wirtz SJ, Sorenson JR, et al: Commercial discharge packs and breast-feeding counseling: effects on infant-feeding practices in a randomized trial. *Pediatrics* 80: 845-54, 1987
68. Shrago L: Glucose water supplementation of the breastfed infant during the first three days of life. *J Hum Lact* 3:82-86, 1987
69. Glover J, Sandilands M: Supplementation of breastfeeding infants and weight loss in hospital. *J Hum Lact* 6:163-66, 1990
70. Sachdev HPS, Krishna J, Pun RK, et al: Water supplementation in exclusively breastfed infants during summer in the tropics. *Lancet* 337 (8747):929-33, 1991
71. Nylander G, Lindemann R, Helsing E, et al: Unsupplemented breastfeeding in the maternity ward: positive long-term effects. *Obstet Gynecol Scand* 70:205-9, 1991
72. Bell W: Formula versus breastfeeding: no debate (letter). *Can Fam Phys* 37:1099-1100, 1991
73. Jarosz LA: Breast-feeding versus formula: cost comparison. *Hawaii Med J* 52:14-16 passim, 1993
74. Almroth S, Greiner T, Latham MC: Economic importance of breastfeeding. *Food Nutr* 5:4-10, 1979
75. Cunningham AS: Morbidity in breast-fed and artificially-fed infants. *J Pediatr* 90:726-29, 1977
76. Daga SR, Daga AS: Impact of breast milk on the cost-effectiveness of the special care unit for the newborn. *J Trop Pediatr* 31: 121-23, 1985
77. Jakobsson I, Lindberg T: Cow's milk proteins cause infantile colic in breast-fed infants: a double-blind crossover study. *Pediatrics* 71:268-71, 1983
78. Anholm PCH: Breastfeeding: a preventive approach to health care in infancy. *Iss Comp Pediatr Nurs* 9:1-10, 1986
79. Goldman AS, Goldblum RM: Human milk: immunologic nutritional relationships. *Ann NY Acad Sci* 587:236-45, 1990
80. Popkin BM, Adair L, Akin JS, et al: Breast-feeding and diarrheal morbidity. *Pediatrics* 86:874-82, 1990
81. Auerbach KG, Riordan J, Countryman BA: The Breastfeeding Process (Chapter 9) *In*: Riordan J, Auerbach KG: Breastfeeding and Human Lactation. Boston: Jones and Bartlett Publishers, see especially "Feeding Plan," p.218, 1998
82. Karra MV, Udipi SA, Kirksey A, et al: Changes in specific nutrients in breast milk during extended lactation. *Am J Clin Nutr* 43:495-503, 1986
83. Stuff JE, Nichols BL: Nutrient intake and growth performance of older infants fed human milk. *J Pediatr* 115:959-68, 1989
84. Xue-cun C, Dong-Sheng L, Ai-Zhong F, et al: A longitudinal study on infant growth during the first six months of life, in relation to the nutrition of the lactating mothers and to the breastmilk output. *Prog Food Nutr Sci* 13:113-37, 1989
85. Prentice A: Breast feeding and the older infant. *Acta Paediatr Scand Suppl* 374:78-88, 1991
86. Dewey KG: Growth patterns of breast-fed infants and the current status of growth charts for infants. *J Hum Lact* 14(2): 89-92, 1998
87. Dewey KG, Heinig MJ, Nonunson LA, et al: Breast-fed infants are leaner than formula-fed infants at 1 y of age: the DARLING study. *Am J Clin Nutr* 57:140-45, 1993
88. Newman TB, Maisels MJ: Does hyperbilirubinemia damage the brain of healthy fullterm infants? *Clin Perinatol* 17:331-58, 1990
89. Stocker R, Yamamoto Y, McDonagh AF, et al: Bilirubin is an anti-oxidant of possible physiological importance. *Science* 235:1043-46, 1987
90. deCarvalho M, Klaus MH, Merkatz RB: Frequency of breast-feeding and serum bilirubin concentration. *Am J Dis Child* 136: 737-38, 1982
91. Boyer DB, Vidyasagar D: Serum indirect bilirubin levels and meconium passage in early fed normal newborns. *Nurs Res* 36: 174-78, 1987
92. deCarvalho M, Hall M, Harvey D: Effects of water supplementation on physiological jaundice in breast-fed babies. *Arch Dis Child* 56:568-69, 1981
93. Kuhr M, Paneth N: Feeding practices and early neonatal jaundice. *J Pediatr Gastroenterol Nutr* 1: 485-88, 1982
94. Nicoll A, Ginsburg R, Tripp JH: Supplementary feeding and jaundice in newborns. *Acta Paediatr Scand* 71:759-61, 1982
95. Auerbach KG: Inadequate breast-feeding and jaundice (letter). *11 Pediatrics* 85:892-93, 1990 101.
96. Kivlahan C, James EJP: The natural history of neonatal jaundice. *Pediatrics* 74:364-70, 1984
97. Auerbach KG, Gartner LM: Breastfeeding and human milk: their association with jaundice in the neonate. *Clin Perinatol* 14: 89-107, 1987

98. Bracci R, Buonocore G, Garosi G, et al: Epidemiologic study of neonatal jaundice: a survey of contributing factors. *Acta Paediatr Scand Suppl* 360:87-92, 1989
99. Gartner LM: Management of jaundice in the well baby (letter). *Pediatrics* 89:826-27, 1992
100. Kemper K, Forsyth B, McCarthy P: Jaundice, terminating breast-feeding, and the vulnerable child. *Pediatrics* 84:773-78, 1989
101. Kemper KJ, Forsyth BW, McCarthy PL: Persistent perceptions of vulnerability following neonatal jaundice. *Am J Dis Child* 144: 238-41, 1990
102. Auerbach KG: When treatment for jaundice undermines breastfeeding. *Contemp Pediatr* 9:105-6, 1992
103. Elander G, Lindberg T: Hospital routines in infants with hyperbilirubinemia influence the duration of breast feeding. *Acta Paediatr Scand* 75:708-12, 1986
104. Maisels MJ, Gifford K, Antle CE, et al: Jaundice in the healthy newborn infant: a new approach to an old problem. *Pediatrics* 81: 505-11, 1988
105. Newman TB, Easterling MJ, Goldman ES, et al: Laboratory evaluation of jaundice in newborns: frequency, cost, and yield. *Am J Dis Child* 144:364-68, 1990
106. Oski FA: Hyperbilirubinemia in the term infant: an unjaundiced approach. *Contemp Pediatr* 9:148-54, 1992
107. Newman TB, Maisels MJ: Evaluation and treatment of jaundice in the term newborn: a kinder, gentler approach. *Pediatrics* 89: 809-18, 1992
108. Amato M, Howald H, von Muralt G: Fat content of human milk and breast milk jaundice. *Acta Paediatr Scand* 74:805-6, 1985
109. Leung AKC, Sauve R: Breastfeeding and breast milk jaundice. *J Roy Soc Health* 109:213-17, 1989
110. Alonso EM, Whittington PF, Whittington SH, et al: Enterohepatic circulation of non-conjugated bilirubin in rats fed with human milk. *J Pediatr* 118:425-30, 1991
111. Grunebaum E, Amir J, Merlob P, et al: Breast milk jaundice: natural history, familial incidence and late neurodevelopmental outcome of the infant. *Eur J Pediatr* 150:267-70, 1991
112. Brown LP, Arnold L, Allison D, et al: Incidence and pattern of jaundice in healthy breast-fed infants during the first month of life. *Nurs Res* 42:106-10, 1993
113. Stein H, Cohen D, Herman AB, et al: Pooled pasteurized breast milk and untreated own mother's milk in the feeding of very low birth weight babies: a randomized controlled trial. *J Pediatr Gastroenterol Nutr* 5:242-47, 1986
114. Golden J: From wet nurse directory to milk bank: the delivery of human milk in Boston, 1909-1927. *Bull Hist Med* 62:589-605, 1988
115. Arnold LDW: How to order banked donor milk in the United States: what the health provider needs to know. *J Hum Lact* 14(1): 65-67, 1998.
116. Michaelsen FM, Skafta L, Badsberg JH, et al: Variation in macronutrients in human bank milk: influencing factors and implications for human milk banking. *J Pediatr Gastroenterol Nutr* 11:229-39, 1990
117. Pierce KY, Thily MR: Mother's own milk: guidelines for storage and handling. *J Hum Lact* 8:159-60, 1992
118. Arnold LDW, Tully MR eds: Guidelines for the Establishment and Operation of a Donor Human Milk Bank, West Hartford, CT: Human Milk Banking Association of North America, 1996
119. Peaker M, Wilde CJ: Milk secretion: autocrine control. *News Physiol Sci* 2:124-26, 1987
120. DeCoopman J: Breastfeeding after pituitary resection: support for a theory of autocrine control of milk supply? *J Hum Lact* 9:35-40, 1993
121. Cregan MD, Hartman PE: Computerized breast measurements from conception to weaning. *J Hum Lact* 15(2):89-96, 1999
122. deCarvalho M, Anderson DM, Giangreco A, et al: Frequency of milk expression and milk production by mothers of non-nursing premature neonates. *Am J Dis Child* 139:483-85, 1985
123. Butte NF, Garza C, Smith E O'Brian, et al: Human milk intake and growth in exclusively breast-fed infants. *J Pediatr* 104: 187-95, 1984
124. Dewey KG, Lonnerdal B: Infant self-regulation of breast milk intake. *Acta Paediatr Scand* 75:893-98, +++1986
125. Elander G, Lindberg T: Short mother-infant separation during first week of life influences the duration of breast-feeding. *Acta Paediatr Scand* 73:237-40, 1984
126. Presser HB: Can we make time for children? The economy, work schedules, and child care. *Demography* 26:523-43, 1989
127. Auerbach KG, Jacobi AM: Postpartum depression in the breastfeeding mother; *In*: Semprevivo DM, Ed: Postpartum Depression. *Clin Iss Perinatal Women's Health Nurs* 1:375-84, 1990
128. Coates MM, Riordan J: Breastfeeding during maternal or infant illness; *In*: Chute GE, Ed: Breastfeeding. *Clin Iss Perinat Women's Health Nurs* 3:683-94, 1992
129. Shepp KG: Factors influencing the coping effort of mothers of hospitalized children. *Nurs Res* 40:42-46, 1991
130. Barber-Madden R, Petschek MA, Pakter J: Breastfeeding and the working mother: barriers and intervention strategies. *J Public Health Pol* 8:531-41, 1987
131. Moore JF, Jansa N: A survey of policies and practices in support of breastfeeding mothers in the workplace. *Birth* 14:191-95, 1987
132. Kurinij H, Shiono PH, Ezrine SF, et al: Does maternal employment affect breastfeeding? *Am J Public Health* 79:1247-50, 1989
133. Heins M: Who will speak for working mothers? (editorial) *Am J Dis Child* 144:755-56, 1990
134. Weile B, Rubin DH, Krasilnikoff PA, et al: Infant feeding patterns during the first year of life in Denmark: factors associated with the discontinuation of breastfeeding. *J Clin Epidemiol* 43: 1305-11, 1990

135. Gielen AC, Faden RR, O'Campo P, et al: Maternal employment during the early postpartum period: effects on initiation and continuation of breast-feeding. *Pediatrics* 87:298-305, 1991
136. Phelan EA: A survey of maternity leave policies in Boston area hospitals. *J Am Med Wom Assoc* 46:55-58, 1991
137. Greiner T: Breastfeeding and maternal employment: another perspective (editorial). *J Hum Lact* 9:214-15, 1993
138. Cavell B: Gastric emptying in infants fed human milk or infant formula. *Acta Paediatr Scand* 70:639-41, 1981
139. Labbok MH: Consequences of breast-feeding for mother and child. *J Biosoc Sci (Suppl)* 9:43-54, 1985
140. Schreiner MS, Trichwasser A, Keon TP: Ingestion of liquids compared with preoperative fasting in pediatric outpatients. *Anesthesiology* 72: 593-97, 1990
141. Victora CG, Tomasi E, Olinto MTA, et al: Use of pacifiers and breastfeeding duration. *Lancet* 341 (8842):404-6, 1993
142. Howard CR, Howard FM, Lanphear B, et al: The effects of early pacifiers use on breastfeeding duration. *Pediatrics* 103:E33, 1999
143. Newman J: Breastfeeding problems associated with the early introduction of bottles and pacifiers. *J Hum Lact* 6:59-63, 1990
144. Wilson-Clay B: Clinical use of silicone nipple shields. *JHL* 12(4) 279-285, 1996
145. Mathew OP, Bhatia J: Sucking and breathing patterns during breast and bottle-feeding in term neonates. *Am J Dis Child* 143: 588-92, 1989
146. Drewett RF, Woolridge M: Sucking patterns of human babies on the breast. *Early Hum Dev* 3/4:315-20, 1979
147. Auerbach KG: The effect of nipple shields on maternal milk volume. *JOGNN* 19:419-27, 1990
148. Taylor PM, Maloni JA, Brown DR: Early suckling and prolonged breast-feeding. *Am J Dis Child* 140: 151-54, 1986
149. Woolridge MW: The 'anatomy' of infant sucking. *Midwifery* 2: 164-71, 1986
150. McBride MC, Danner SC: Sucking disorders in neurologically impaired infants: assessment and facilitation of breast-feeding. *Clin Perinatol* 14:109-30, 1987
151. Walker M: Management of selected early breastfeeding problems seen in clinical practice. *Birth* 16: 148-58, 1989
152. Nicholson WL: Tongue-tie (ankyloglossia) associated with breastfeeding problems. *J Hum Lact* 7:82-84, 1991
153. Griffiths RJ: Breast pads: their effectiveness and use by lactating women. *J Hum Lact* 9:19-26, 1993
154. Alexander JM, Grant AM, Campbell MJ: Randomised controlled trial of breast shells and Hoffman's exercises for inverted and non-protractile nipples. *Br Med J* 304(6833): 1030-32, 1992
155. Rylance G, Plant N: Drugs and breast milk. *Practitioner* 235: 692-94, 1991
156. Tyree DJ: Perinatal medications and breastfeeding. *J Hum Lact* 8:87-90, 1992
157. Hale Thomas W: Anesthetic Medications in Breastfeeding mothers. *JHL* 15(3), 1999
158. Batagol R: Drugs and breastfeeding. *Breastfeed Rev* 14:13-20, 1989
159. Berlin CM: Drugs and chemicals: exposure of the nursing mother. *Pediatr Clin North Am* 36:1089-97, 1989
160. Committee on Drugs: Transfer of drugs and other chemicals into human milk. *Pediatrics* 84:924-36, 1989
161. Atkinson HC, Begg EJ: Prediction of drug distribution into human milk from physicochemical characteristics. *Clin Pharmacokinet* 18:151-67, 1990
162. Anderson PO: Drug use during breast-feeding. *Clin Pharm* 10: 594-624, 1991
163. Fulton B: Recreational drug use in the breastfeeding mother. Part 2: Licit drugs. *J Hum Lact* 6:15-17, 1990
164. Mennella JA, Beauchamp CK: The transfer of alcohol to human milk: effects on flavor and the infant's behavior. *N Engl J Med* 325:981-85, 1991
165. Woodward A, Hand K: Smoking and reduced duration of breastfeeding. *Med J Austral* 148:477-78, 1988
166. Vio F, Salazar G, Infante C: Smoking during pregnancy and lactation and its effects on breast milk volume. *Am J Clin Nutr* 54:1011-16, 1991
167. Widström A-M, Werner S, Matthiesen A-S, et al: Somatostatin levels in plasma of non-smoking and smoking breast-feeding women. *Acta Paediatr Scand* 80:13-21, 1991
168. Bundred NJ, Dover MS, Coley S, et al: Breast abscesses and cigarette smoking. *Br J Surg* 79:58-59, 1992
169. Hopkinson JM, Schanler RJ, Fraley JK, et al: Milk production by mothers of premature infants: influence of cigarette smoking. *Pediatrics* 90:934-38, 1992
170. Matheson I: The effect of smoking on lactation and infantile colic. *J Am Med Assoc* 261:42-43, 1989
171. Astley SJ, Little RE: Maternal marijuana use during lactation and infant development at one year. *Neurotoxicol Teratol* 12: 161-68, 1990
172. Woodward A, Douglas RM, Graham NMH, et al: Acute respiratory illness in Adelaide children: breast feeding modifies the effect of passive smoking. *J Epidemiol Commun Health* 44: 224-30, 1990
173. Mitchell EA, Scragg R, Stewart AW, et al: Cot death supplement: results from the first year of the New Zealand cot death study. *NZ Med J* 104:71-76, 1991
174. Becker AB, Manfreda J, Ferguson AC, Dimich-Ward H, Watson WT, Chan-Yeung M: Breastfeeding and environmental tobacco smoke exposure. *Archives of Pediatrics and Adolescent Medicine* 153:689-91, 1999
175. Newburg DS, Viscidi RP, Ruff A, and Yolken RH: A human milk factor inhibits binding of human immunodeficiency virus to the CD4 receptor. *Pediatric Research* 31:22-28, 1992

176. Belec L, Bouquety J-C, Georges AJ, et al: Antibodies to human immunodeficiency virus in the breast milk of healthy, seropositive women. *Pediatrics* 85:1022-26, 1990
177. Hirata M, Hayashi J, Nogachi A, et al: The effects of breast-feeding and presence of antibody to p⁴⁰tax protein of human T cell lymphotropic virus type-1 on mother to child transmission. *mt J Epidemiol* 21:989-94, 1992
178. Ruff AJ, Halsey NA, Coberly J, et al: Breast-feeding and maternal-infant transmission of human immunodeficiency virus type 1. *J Pediatr* 121:325-29, 1992
179. Nicoll A, Killewo JZJ, Mgone C: HIV and infant feeding practices: epidemiological implications for sub-Saharan African countries. *AIDS* 4:661-65, 1990
180. Tozzi AE, Pezzotti P, Greco P: Does breast-feeding delay progression to AIDS in HIV-infected children? *AIDS* 4: 1293-1304, 1990
181. Ryder RW, Manzila T, Baende E, et al: Evidence from Zaire that breast-feeding by HIV-1 seropositive mothers is not a major route for perinatal HIV-1 transmission but does decrease morbidity. *AIDS* 5:709-14, 1991
182. deMartino M, Tovo P-A, Tozzi AE, et al: HIV-1 transmission through breast-milk: appraisal of risk according to duration of feeding. *MDS* 6:991-97, 1992
183. Orloff SL, Wallingford JC, McDougal JS: Inactivation of human immunodeficiency virus type 1 in human milk: effects of intrinsic factors in human milk and of pasteurization. *J Hum Lact* 9:13-17, 1993
184. Oxtoby MJ: Human immunodeficiency virus and other viruses in human milk: placing the issues in broader perspective. *Pediatr Infect Dis J* 7:825-35, 1988
185. Kennedy KI, Fortney JA, Bonhomme MG, et al: Do the benefits of breastfeeding outweigh the risk of postnatal transmission of HIV via breastmilk? *Trop Doc* 20:25-29, 1990
186. Heymana SJ: Modeling the impact of breastfeeding by HIV-infected women on child survival. *Am J Public Health* 80: 1305-9, 1990
187. Kennedy KI, Visness C, and Rogan W: Breastfeeding and AIDS: a health policy analysis. *AIDS and Public Policy J* 7:18-28, 1992
188. Newell ML: Infant feeding and HIV-1 transmission. *Lancet* 354(9177): 442-43, 1999
189. Miotti PG, Taha TE, Kumwenda NI et al: HIV transmission through breastfeeding: A Study in Malawi. *Journal of the American Medical Assoc.* 282:744-49, 1999
190. Morrison P: HIV and infant feeding: To breastfeed or not to breastfeed; The dilemma of competing risks. Part 1 *Breastfeeding Review.* 7:5-13, 1999
191. Coutsooudis A, Pillay K, Spooner E, Kuhn L, Coovadea HM: Influence of infant feeding patterns on early mother to child transmission of HIV-1 in Durban, South Africa: A prospective cohort study. *South African Vitamin A Study Group. Lancet* 354(9177):471-76, 1999
192. Neifert M, DeMarzo S, Seacat J, et al: The influence of breast surgery, breast appearance, and pregnancy-induced breast changes on lactation sufficiency as measured by infant weight gain. *Birth* 17:31-38, 1990
193. Nicholson W: Breastfeeding after breast reduction: guidelines for mothers. *Breastfeed Rev* 2:174-77, 1991
194. Harris L, Morris SF, Freiberg A: Is breast feeding possible after reduction mammoplasty? *Plast Reconstr Surg* 89:836-39, 1992
195. Widdice L: The effects of breast reduction and breast augmentation surgery on lactation: an annotated bibliography. *J Hum Lact* 9:161-67, 1993
196. Riordan J, Aurbach KG: Breast related problems. *Breastfeeding and Human Lactation.* Boston, Jones, and Barlett. 387-388, 1993
197. Lawrence R: Complications of the mother. *Breastfeeding: A Guide for the Medical Profession.* Fourth edition. Mosby, St. Louis, MO. 530-531, 1994
198. Hurst N: Lactation after augmentation mammoplasty. *Obstetrics and Gynecology* 87:30-34, 1996
199. Cunningham AS, Jelliffe DB, Jelliffe EFP: Breast-feeding and health in the 1980s: a global epidemiologic review. *J Pediatr* 118:659-66, 1991
200. Howie PW, Forsyth JS, Ogston SA, et al: Protective effect of breastfeeding against infection. *Br Med J* 300:11-16, 1990
201. Gordon AG Re: Breastfeeding reduces risk of respiratory illness in infants (letter). *American Journal of Epidemiology* 150: 427-28, 1999
202. Merrett TG, Burr ML, Butland BK, et al: Infant feeding and allergy: twelve-month prospective study of 500 babies born in allergic families. *Ann Allergy* 61 (6 Pt 2):132-20, 1988 197.
203. Whorwell PJ, Holdstock G, Whorwell GM, et al: Bottle feeding, early gastroenteritis, and inflammatory bowel disease. *Br Med J* 1(6160):382, 1979
204. Lucas A, Cole TJ: Breastmilk and neonatal necrotising enterocolitis. *Lancet* 336(8730):1519-23, 1990
205. Loesche WS: Nutrition and dental decay in infants. *Am J Clin Nutrition* 41:423-435, 1985
206. Teele DW, Klein JO, Rosner B: Epidemiology of otitis media during the first seven years of life in children in greater Boston: a prospective cohort study. *J Infect Dis* 160:83-93, 1989
207. Duncan B, Ey J, Holberg CJ, et al: Exclusive breastfeeding for at least 4 months protects against otitis media. *Pediatrics* 91: 867-72, 1993
208. Kostraba JN, Cruickshanks KJ, Lawler-Heavner J, et al: Early exposure to cow's milk and solid foods in infancy, genetic predisposition, and risk of IDDM. *Diabetes* 42:288-95, 1993
209. Mayer EJ, Hamman RF, Gay EC, et al: Reduced risk of IDDM among breastfed children. *Diabetes* 37:1625-32, 1988
210. Kelly DW, Phillips AD, Elliott EJ, et al: Rise and fall of coeliac disease, 1960-85. *Arch Dis Child* 64:1157-60, 1989
211. Davis MK, Savitz DA, Graubard BI: Infant feeding and childhood cancer. *Lancet* 2(8607):365-68, 1988

212. Duffy LC, Byers TE, Riepenhoff-Tally M, et al: The effects of infant feeding on rotavirus-induced gastroenteritis: a prospective study. *Am J Public Health* 76:259-63, 1986
213. Haffejee IE: Cow's milk-based formula, human milk, and soya feeds in acute infantile diarrhea: a therapeutic trial. *J Pediatr Gastroenterol Nutr* 10:193-98, 1990
214. Huffman SL, Combest C: Role of breast-feeding in the prevention and treatment of diarrhoea. *J Diarrhoeal Dis Res* 8: 68-81, 1990
215. Sachdev HPS, Kumar S, Singh KK, et al: Does breastfeeding influence mortality in children hospitalized with diarrhoea? *J Trop Pediatr* 37:275-79, 1991
216. Ruuska T: Occurrence of acute diarrhea in atopic and non-atopic infants: the role of prolonged breast-feeding. *J Pediatr Gastroenterol Nutr* 14:27-33, 1992
217. Reamer SB, Sugarman M: Breast feeding beyond six months: mothers' perceptions of the positive and negative consequences. *J Trop Pediatr* 33:93-97, 1987
218. Wrigley EA, Hutchinson SA: Long-term breastfeeding: the secret bond. *J Nurs Midwif* 35:35-41, 1990
219. Moscone SR, Moore MJ: Breastfeeding during pregnancy. *J Hum Lact* 9:83-88, 1993
220. Brown RE: Relactation: an overview. *Pediatrics* 60:116-20, 1977
221. Auerbach KG, Avery JL: Relactation: a study of 366 cases. *Pediatrics* 65:236-42, 1980
222. Phillips V: Relactation in mothers of children over 12 months. *J Trop Pediatr* 39:45-48, 1993
223. Hormana E: Breast feeding the adopted baby. *Birth Fam J* 4:165-72, 1977
224. Auerbach KG, Avery JL: Induced lactation: A study of adoptive nursing by 240 women. *Am J Dis Child* 135:340-43, 1981
225. Bartlett AV, Moore M, Gary GW, et al: Diarrheal illness among infants and toddlers in day care centers. I. Epidemiology and pathogens. *J Pediatr* 107: 495-502, 1985
226. Hadler SC, McFarland L: Hepatitis in day care centers: epidemiology and prevention. *Rev Infec Dis* 8:548-57, 1986
227. Henderson FW, Giebink GS: Otitis media among children in day care: epidemiology and pathogenesis. *Rev Infec Dis* 8: 533-38, 1986
228. Bell DM, Gleiber DW, Mercer AA, et al: Illness associated with child day care: a study of incidence and cost. *Am J Public Health* 79:479-84, 1989
229. Wald ER, Guerra N, Byers C: Frequency and severity of infections in day care: three-year follow-up. *J Pediatr* 118: 509-14, 1991
230. Reves RR, Morrow AL, Bartlett AV, et al: Child day care increases the risk of clinic visits for acute diarrhea and diarrhea due to rotavirus. *Am J Epidemiol* 137:97-107, 1993
231. Newton N, Newton M: Psychologic aspects of lactation. *New Engl J Med* 277:1179-88, 1967
232. Brazelton TB, Als H: Four early stages in the development of mother-infant interaction. *Psychoanal Study Child* 34:349-69, 1979
233. Narayanan I: Early mother-infant interaction: global perspectives and developing country concerns. *J Trop Pediatr* 33:120-23, 1987
234. Kalkwarf HS, Specker BL: Bone mineral loss during lactation and recovery after weaning. *Obstet Gynecol* 86:26, 1995
235. Kritz-Silverstein D, Barrett-Connor E, Hollenbach KA: Pregnancy and lactation as determinants of bone mineral density in postmenopausal women. *Am J Epidemiol* 136:1052-59, 1992
236. Sowers M, Corton G, Shapiro B, et al: Changes in bone density with lactation. *J Am Med Assoc* 269:3130-3136, 1993
237. Byers T, Graham S, Roepka T, et al: Lactation and breast cancer. *Am J Epidemiol* 121:664-74, 1985
238. McTiernan A, Thomas DB: Evidence for a protective effect of lactation on risk of breast cancer in young women. *Am J Epidemiol* 124:353-58, 1986
239. Layde PM, Webster LA, Baughman AL, et al: The independent associations of parity, age at first full term pregnancy, and duration of breastfeeding with the risk of breast cancer. *J Clin Epidemiol* 42:963-73, 1989
240. United Kingdom National Case-Control Study Group: Breast feeding and risk of breast cancer in young women. *Br Med J* 307(6895):17-20, 1993
241. Gwinn ML, Lee NC, Rhodes PH, et al: Pregnancy, breast feeding, and oral contraceptives and the risk of epithelial ovarian cancer. *J Clin Epidemiol* 43:559-68, 1990
242. Rosenblatt KA, Thomas DB, and the WHO Collaborative Study of Neoplasia and Steroid Contraceptives: lactation and the risk of epithelial ovarian cancer. *Int J Epidemiol* 22: 192-97, 1993
243. Perez A, Labbok MH, and Queenan JT: Clinical study of the lactational amenorrhoea method for family planning. *Lancet* 339:968-70, 1992
244. Diaz S, Rodriguez G, Peralta O, et al: Lactation amenorrhoea and the recovery of ovulation and fertility in fully nursing Chilean women. *Contraception* 38:53-67, 1988
245. Lewis PR, Brown JB, Renfree MB, et al: The resumption of ovulation and menstruation in a well-nourished population of women breastfeeding for an extended period of time. *Fertil Steril* 55:529-36, 1991
246. Short RV, Lewis PR, Renfree MB, et al: Contraceptive effects of extended lactational amenorrhoea: beyond the Bellagio Consensus. *Lancet* 337:715-17, 1991
247. Kennedy KI, Visness CM: Contraceptive efficacy of lactational amenorrhoea. *Lancet* 339(8787):227-30, 1992
248. Kennedy KI, Rivera R, and McNeilly AS: Consensus statement of the use of breastfeeding as a family planning method. *Contraception* 39:477-96, 1989
249. Elias MF, Teas J, Johnston J, et al: Nursing practices and lactation amenorrhoea. *J. Biosoc Sci* 18:1-10, 1986

250. Short RV: Lactational infertility in family planning. *Ann Med* 25:175-80, 1993
251. Family Health International: Breastfeeding as a family planning method. *Lancet* 862(ii):1204-1205, 1988
252. Rosner AE, Schulman SK: Birth interval among breast-feeding women not using contraceptives. *Pediatrics* 86:747-52, 1990
253. Taylor HW, Smith RE, Samuels SJ: Post-partum anovulation in nursing mothers. *J Trop Pediatr* 37:286-92, 1991
254. Singh KK, Suchindran CM, Singh K: Effects of breast feeding after resumption of menstruation on waiting time to next conception. *Hum Biol* 65:71-86, 1993
255. Savina G, Kennedy K: The effect of a breastfeeding education program on lactational amenorrhea in the Philippines. *Stud Fam Plana* 20:203-14, 1989
256. Kennedy KI: Fertility, sexuality, and contraception during lactation (Chapter 6). In: Riordan J, Auerbach KG, Eds: *Breastfeeding and Human Lactation*. Boston: Jones and Bartlett Publishers, 1993
257. Butters L, McCabe R: The influence of breast and bottle feeding on blood pressure. *Midwifery* 4:130-32, 1988
258. Gielen AC, Faden RR, Paige DM, et al: Breast-feeding promotion in obstetrical care practices: limitations and opportunities. *Pat Educ Counsel* 12:5-12, 1988
259. Hull VJ, Thapa S, Wiknjastro G: Breastfeeding and health professionals: a study in hospitals in Indonesia. *Soc Sci Med* 28: 355-64, 1989
260. Low T: Breastfeeding: attitudes and knowledge of health professionals. *Aust Fam Phys* 19:392-98, 1990
261. Chalmers JWT: Variations in breast feeding advice, a telephone survey of community midwives and health visitors. *Midwifery* 7: 162-66, 1991
262. Becker GE: Breastfeeding knowledge of hospital staff in rural maternity units in Ireland. *J Hum Lact* 8:137-42, 1992
263. Freed GL: Breast-feeding: time to teach what we preach. *J Am Med Assoc* 269:243-45, 1993
264. Bagwell JE, Kendrick OW, Stitt KR, Leeper JD: Knowledge and attitudes toward breast-feeding: differences among dietitians, nurses, and physicians working with WIC clients. *J Am Diet Assoc* 93:801-4, 1993
265. Karpis TA, Spicer M: A survey of pediatric nurses' knowledge about breastfeeding. *Journal of Pediatric Nursing* 14:193-200, 1999
266. Schanler RS, O'Connor KG, Lawrence RA: Pediatricians practices and attitudes regarding breastfeeding promotion. *Pediatrics* 103:E35, 1999
267. Lynch SA, Koch AM, Hislop TG, et al: Evaluating effect of a breastfeeding consultant on the duration of breastfeeding. *Can J Public Health* 77:190-95, 1986
268. Jones DA, West RR: Effect of a lactation nurse on the success of breastfeeding: a randomized controlled trial. *J Epidemiol Comm Health* 40:45-49, 1986
269. Barnes LP: Lactation consultation in the neonatal intensive care unit. *MCN* 16:167, 1991
270. Auerbach KG: The ecological, clinical, and sociological aspects of world-wide lactation failure. In: Hirsch H, Ed: *The Family*, 4th Int Congr Psychosom Obstet Gynecol. Basel: Karger, pp.415-18, 1975
271. Radford A: *The ecological impact of bottle-feeding*. Cambridge, UK: Baby Milk Action Coalition, 1991 (booklet)
272. Chren M-M, Landefeld CS, Murray TH: Doctors, drug companies, and gifts. *J Am Med Assoc* 262:3448-51, 1989
273. Greer FR, Apple RD: Physicians, formula companies, and advertising: ahistorical perspective. *Am J Dis Child* 145:282-86, 1991
274. Margolis LH: The ethics of accepting gifts from pharmaceutical companies. *Pediatrics* 88:1233-37, 1991
275. Auerbach KG: One result of marketing: breastfeeding is the exception in infant feeding (editorial). *J Trop Pediatr* 38:210-13, 1992
276. Chezen J, Friesen C, Montgomery P, Fortman T, Clark H: Lactation duration: Influences of human milk replacements and formula samples on women planning postpartum employment. *Journal of Obstetric, Gynecologic and Neonatal Nursing* 27:646-51, 1998
277. Prentice AM, Prentice A: Energy costs of lactation. *Ann Rev Nutr* 8:63-79, 1988
278. van Raaij JMA, Schonk CM, Vermaat-Miedema SH, et al: Energy cost of physical activity throughout pregnancy and the first year postpartum in Dutch women with sedentary lifestyles. *Am J Clin Nutr* 52:234-39, 1990
279. Frigeno C, Schutz Y, Prentice AN, et al: Is human lactation a particularly efficient process? *Eur J Clin Nutr* 45:459-62, 1991
280. Guillermo-Tuazon MA, Barba CVC, van Raaij JMA, et al: Energy intake, energy expenditure, and body composition of poor rural Philippine women throughout the first 6 mo of lactation. *Am J Clin Nutr* 56:874-80, 1992
281. Saint L, Maggiore P, Hartmann PE: Yield and nutrient content of milk in eight women breast-feeding twins and one woman breast-feeding triplets. *Br J Nutr* 56:49-58, 1986
282. Jackson KA, Gibson RA: Weaning foods cannot replace breast milk as sources of long-chain polyunsaturated fatty acids. *Am J Clin Nutr* 50:980-82, 1989
283. Butte NF, Smith E O'Brien, Garza C: Energy utilization of breast-fed and formula-fed infants. *Am J Clin Nutr* 51:350-58, 1990

Because of the growing interest in the field of human milk and breastfeeding research, this position paper will be reviewed regularly to maintain its accuracy and relevance. The latest statements of international agencies such as the World Health Organization and UNICEF, which see the promotion of breastfeeding as central to any strategy for improved global health, are recommended for review as well.

Akre' J, Ed: Infant Feeding: the Physiological Basis. Geneva: World Health Organisation, 1990

Enkin M, Chalmers I, Keirse M, Eds: Effective Care in Pregnancy and Childbirth. Oxford: Oxford University Press, 1990

Protecting Infant Health: a healthworker's guide to the International Code of Marketing of Breast-milk Substitutes. IOCU Penang Malaysia, 1989

Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services WHO/UNICEF, 1989