



30 years of IBFAN¹

“People’s movements ... like IBFAN, are the most promising countervailing forces there are. They are the advocates of values, advocates of protection of the vulnerable, of small children. I know that but for the work of IBFAN, WHO and UNICEF would not have been persuaded to go to the world community with the proposal for a Code on the Marketing of Breastmilk Substitutes. They would not have dared to carry it through, without the people’s support, without the public mobilisation that was so essential.”

On 12 October 2009, IBFAN turned 30 years old, or maybe we should say “young”, because 30 is a splendid age to be productive, effective and efficient. It also shows the resilience of a network that has survived to be the oldest of any single-focus international movement to hold fast to its principles and objectives. Back in 1979, the organisers would not have dreamt of reaching this anniversary. After all, its purpose was very straightforward: protect breastfeeding from unfair commercial competition. Once the *International Code of Marketing of Breastmilk Substitutes* had been adopted in 1981, they imagined the rest would be plain sailing and the network could disband or regroup around another pressing issue.

In those early years almost all the work focussed around Code drafting in Geneva. Would IBFAN manage to press WHO and UNICEF sufficiently to come up with a Code “with teeth”? Would it succeed in convincing all countries to support such a Code, to resist industry lobbying and vote massively in favour? Would the millions of Nestlé Boycott supporters stop their campaign once the Code was adopted? And could the loosely organized network resist the increasingly clever tactics of a multimillion dollar industry to divide and confuse?

But it was never easy. There always seemed to be one crisis or another. However, as crises grew into victories, IBFAN established its identity and could concentrate on efforts to monitor and help with implementing the Code in 196 countries around the world.

Starting with six groups in 1979, the network began regionalising and grew into some 200 affiliated groups in over 95 countries. The battle that had been concentrated in Geneva around the drafting and adoption of the Code, spread to all corners of the globe, where regional offices now support national groups to monitor marketing practices and press their governments into adopting and enforcing national legislation based on the Code.

Geneva and the World Health Assembly, however, remained an important focus for IBFAN. For example, it took over seven years’ lobbying by the network to finally come up with a definitive resolution on demanding a ban on ‘free supplies’. Many promises had been made before but companies whose marketing relied heavily on the goodwill of hospitals to accept ‘generous’ supplies of infant milks, lobbied governments and experts to minimise the issue. It took as long to establish the optimal duration of breastfeeding - 6 months of exclusive breastfeeding followed by continued breastfeeding up to 2 years - and hence set clear limits to the promotion of products intended for use under that age.

And so, against all expectations, at age 30, IBFAN still finds itself in the centre of the “bottle-baby” battle. One comfort certainly is that, without IBFAN, millions of babies would have succumbed to the bottle; millions of mothers would have given up breastfeeding. Without IBFAN, the world would definitely not have 63 countries with strict laws to protect breastfeeding. And there are a dozen multinationals that have to constantly look over their shoulders to check if IBFAN Code watchers are around to expose the incoherence between their words and their deeds - and shame them. That is quite a feat for what started out as a small group of devoted activists.

The future has never been certain for IBFAN. With funding running dry and public-private partnerships looming high, the obstacles are different, more complex and more of a challenge. The network is re-assessing, re-organising and re-engaging. And yet, we are sure that commitment will succeed where dollars have so far failed.

¹Guest editor: Annelies Allain, International Code Documentation Centre, Penang, Malaysia.

²Tarzie Vittachi, Deputy Executive Director of UNICEF, in a Keynote address to the 11th World Congress of the International Organisation of Consumers Unions, December 1984.

International Code

Barennes H, Andriatahina T, Lathphasavang V, Anderson M, Srour LM. Misperceptions and misuse of Bear Brand coffee creamer as infant food: national cross sectional survey of consumers and paediatricians in Laos. *BMJ* 2008;337:a1379

In Laos, a popular coffee creamer was marketed with an illustration of a mother bear holding a baby bear in the breastfeeding position. The first ingredient listed in this coffee creamer is sugar and the product contains 3.6% of calories as protein and 27.3% as fat. For infant formula the recommended content is 7.2-12.0% protein and 40-54% fat. The coffee creamer is sold in many rural roadside shops. The company uses the same Bear Brand logo on its canned sterilised cow's milk product and on infant formula products for infants 6 months of age and older. A warning on the can stated in English, Thai, and Lao, that "This product is not to be used as a breast milk substitute". There was also an illustration of a feeding bottle crossed by an X. 1,098 adults were surveyed to investigate the use of this product as food for infants and the impact of the logo; 96% believed that the can contained milk; 46% that the Bear Brand logo indicated that the product was formulated for feeding to infants or to replace breastmilk; 80% had not read the written warning on the can; over 18% reported giving the product to their infant at a mean age of 4.7 months (95% confidence interval 4.1 to 5.3). The authors concluded that in Laos the Bear Brand coffee creamer was used as a breastmilk substitute. The cartoon logo influenced people's perception of the product that belies the written warning. Use of this logo on a coffee creamer was misleading to the local population and placed the health of infants at risk.

Salasibew M, Kiani A, Faragher B, Garner P. Awareness and reported violations of the WHO International Code and Pakistan's national breastfeeding legislation: a descriptive cross-sectional survey. *International Breastfeeding Journal* 2008;3:24

National legislation in Pakistan adopted the International Code in 2002 to restrict the promotion of infant formula feeding. The objectives of this paper were to assess health professionals' awareness of this law in urban government hospitals and to describe their reports of violations, including receiving free samples, gifts and sponsorship. Structured interviews were conducted with health staff between July and August 2006 at 12 urban government hospitals in Islamabad, Rawalpindi and Peshawar, including paediatricians, obstetricians, nurses, resident doctors, midwives and lady health visitors (LHVs). Of the 427 health workers interviewed, the majority were not aware of the national breastfeeding law (70%) or the Code (80%). Paediatricians and staff who had been working for 10 years or more were 2.5 to 7 times more likely to be aware of the law. More than 38% had received small gifts such as pens, pencils and calendars; 12% had been sponsored for trainings or conferences; and 16% had received free samples of infant formula from the companies. Staff who were aware of the law were also more likely to report receiving gifts and free samples. The authors concluded that most hospital health professionals were unaware of national breastfeeding legislation, and that infant formula companies were continuing to flout the ban on gifts, free samples and sponsorship for health staff.

Parrilla Rodriguez AM, Gorriñ Peralta JJ. Formula labeling violations to the WHO Code: a quantitative and qualitative analysis. *PR Health Sci J* 2008;27:49-53

According to the International Code, labels need to have correct and clear dispositions since they frequently are the only source of vital information for consumers regarding the content of the product and its uses. The purpose of this study was to determine violations of Article 9 of the Code regarding infant formula labelling in Puerto Rico. A quantitative and qualitative evaluation of 34 labels of infant formula, representing 77% of infant formula labels of the four companies which market them in the island, was carried out. It used a standard IBFAN monitoring instrument that includes 14 criteria identifying violations. All the labels were found to violate the Code in one or more of its dispositions. The most striking violations included: a phrase stating that "Breastfeeding is best" was lacking on 73.5% of the labels, as well as a statement that the product should be used only on the advice of a health worker. None of the labels were in Spanish, the local language. A text idealizing the use of infant formula or discouraging breastfeeding was present in 97% of the samples; the same percentage of labels presented a photo or a picture idealizing the use of infant formula. The authors concluded that it was vital to produce legislation based on the Code in Puerto Rico in order to regulate indiscriminate marketing practices and their subsequent ill effects on children's health and breastfeeding practices.

Sokol E, Clark D, Aguayo VM. Protecting breastfeeding in West and Central Africa: over 25 years of implementation of the International Code of Marketing of Breastmilk Substitutes. *Food and Nutrition Bulletin* 2008;29:159-62

This paper documents progress, challenges, and lessons learned in the implementation of the International Code in 24 countries of West and Central Africa. Data were obtained by literature review and interviews with key informants. Twelve of these countries have laws, decrees or regulations that implement all or most of the provisions of the Code; six have a draft law or decree that is awaiting government approval or have a government committee that is studying how best to implement the Code; three have a legal instrument that enacts a few provisions of the Code; and three have not taken any action yet to implement the Code. International declarations and initiatives for child nutrition and survival have provided impetus for national implementation of the Code. More than 25 years after its adoption by the WHA, the Code remains as important as ever for child survival and development in West and Central Africa. National action to regulate the marketing of breastmilk substitutes needs to be linked to national priorities for nutrition and child survival. A clearly defined scope is essential for effective implementation of national legislation. Leadership and support by health professionals is essential to endorse and enforce national legislation. Training on Code implementation is instrumental for national action; implementation of the Code requires provisions and capacity to monitor and enforce the legislative framework and needs to be part of a multipronged strategy to advance national child nutrition and survival goals.

Merewood A, Fonrose R, Singleton M, Grossman X, Navidi T, Cook JT, Pomale T. From Maine to Mississippi: hospital distribution of formula sample packs along the eastern seaboard. *Arch Pediatr Adolesc Med* 2008;162:823-7

The objectives of this study were: 1) to determine the proportion of hospitals distributing free infant formula sample packs in 21 Eastern states and the District of Columbia, USA; 2) to investigate any regional trends or timelines associated with discontinuation of formula pack distribution; and 3) to catalogue in two states the take-home items given to new mothers in addition to, or instead of, formula sample packs.

Data were collected between 2006 and 2007, over the telephone, by research assistants using a prepared script, and calling 1,295 hospitals. 94% of the hospitals distributed formula sample packs. The proportion of distributing hospitals ranged from 70% (New Hampshire) to 100% (New Jersey, Maryland, Mississippi, West Virginia, and Washington, DC). The proportion of hospitals that did not distribute sample packs rose significantly between 1979 and 2006. Most Eastern-US hospitals distributed formula sample packs to new mothers at hospital discharge, contrary to recommendations from the major medical organizations, but the practice is changing significantly.

Rosenberg KD, Eastham CA, Kasenhagen LJ, Sandoval AP. Marketing infant formula through hospitals: the impact of commercial hospital discharge packs on breastfeeding. *Am J Public Health* 2008;98:290-5

This study used Oregon (USA) data from the Center for Disease Control and Prevention Pregnancy Risk Assessment Monitoring System to determine whether the breastfeeding practices of 2,684 new mothers were affected by the distribution of formula sample packs given on discharge from the hospital. After controlling for maternal age, race/ethnicity, educational level, and family income, women who received formula samples were about 39% (confidence interval 5-84%) more likely to exclusively breastfeed their infants for less than 10 weeks than women who did not receive formula samples. The relationship between receiving a sample pack and diminished exclusive breastfeeding was significant every week throughout the first 10 weeks post partum, with the strongest significance at approximately 3 weeks. Portland, Oregon, became the first US city in which formula sample hospital discharge packs were eliminated from every hospital. Commercial hospital discharge packs should be reconsidered in light of their negative impact on exclusive breastfeeding.

Revai K, Huston R. Hospital distribution of formula discharge bags: opinions of Texas pediatricians. *Breastfeeding Medicine* 2009;4:157-60

The distribution of formula company-sponsored gift bags has been identified as one factor that negatively impacts breastfeeding exclusivity and duration. The Texas Pediatric Society surveyed its members regarding their opinions about the distribution of formula company-sponsored gift bags. Of 1,000 members contacted, only 176 responded. Of the survey respondents, 55% favoured the elimination of gift bags for breastfeeding mothers, but only 24% were in favour of legislation prohibiting the distribution of gift bags; 64% stated that they would not be in favour of legislation that prohibited the distribution of formula discharge packs. Although several health-related organizations agreed

that the distribution of formula company-sponsored discharge bags was detrimental to breastfeeding success, no professional organizations have lobbied officially for legislation prohibiting hospitals from distributing these bags. Grassroots advocacy has been very successful in persuading hospitals to eliminate formula company-sponsored gift bags. Physicians who would like to end the practice of distributing these bags should work with their local hospitals to develop alternatives that take into account the best interests of patients and hospitals. These efforts may be more successful than working to legislate the elimination of formula company-sponsored gift bags, at least in the USA.

Volpe Holmes A, Chin NP, Kaczorowski J, Howard CR. A barrier to exclusive breastfeeding for WIC enrollees: limited use of exclusive breastfeeding food package for mothers. *Breastfeeding Medicine* 2009;4:25-30

In the first 2 weeks of life, most poor breastfeeding mother-infant dyads in the USA receive infant formula from the WIC programme, instead of a larger food package designed for exclusively breastfeeding mothers. This study was designed to explore reasons for high rates of formula supplementation of breastfeeding newborns enrolled in WIC and the limited use of the WIC expanded food package. In-depth interviews were carried out with 29 mothers who either partially or exclusively breastfed for at least 2 months. The results showed that participants viewed WIC in a contradictory manner, both as highly supportive of breastfeeding, as well as as a promoter of infant formula. The expanded food package for mothers was not valued, contrary to the free supplemental formula that was. Misinformation about breastfeeding pervaded the healthcare system, and exclusive breastfeeding was not promoted as an important health goal. Lack of access to breast pumps, the unacceptability of pumping in the workplace, and difficulties with nursing in public all contributed to formula supplementation. It was suggested that WIC users be informed about how formula could be detrimental to breastfeeding. When upcoming food package changes were to be made, it was suggested that great consideration be given to making the expanded food package for exclusively breastfeeding mothers more palatable, acceptable, and useful.

Kaplan DL, Graff KM. Marketing breastfeeding: reversing corporate influence on infant feeding practices. *Journal of Urban Health: Bulletin of the New York Academy of Medicine* 2008; doi:10.1007/s11524-008-9279-6

The infant formula industry has contributed to low rates of breastfeeding through various methods of marketing and advertising. In New York City, USA, although the majority of mothers initiate breastfeeding (85%), only a minority of infants (25%) is still breastfed exclusively at 8 weeks postpartum. This article reviews the practices of the formula industry and the impact of these practices, searching possible ways to change this trend. When infant formula was introduced in the USA in the late 1860s, manufacturers advertised their new product directly to consumers in women's magazines. Advertisements implied that babies needed more than just breastmilk to achieve optimal health and nourishment, and they emphasized how closely formula approximated the chemical composition of breast milk. As is still done today, formula companies attracted new customers with free samples and information on infant feeding and care. In the late 1980s, most formula companies aban-

done direct-to-consumer advertising and used the medical community as their main advertising vehicle: formula package instructions advised mothers to obtain guidance on formula feeding during their regular visits to the doctor, yielding a steady flow of income for physicians. Formula companies further engendered physicians' goodwill by sponsoring scientific conferences and research on infant nutrition. Doctors retained their role as undisputed advisors on infant health and feeding while simultaneously providing product referrals for formula purchase and serving as an advertising source of unparalleled credibility. Besides the medical profession, also the country policies and programmes such as WIC became a source of infant formula promotion. WIC, the US Department of Agriculture (USDA) Special Supplemental Nutrition Program for Women, Infants, and Children, purchases over half of all infant formula consumed in the USA and provides it free to mothers enrolled in the programme. Although breastfeeding promotion is part of WIC's mandate, formula companies have leveraged WIC as a promotional vehicle. In each state, one formula manufacturer gives WIC significant price rebates in exchange for exclusive rights to provide its brand of formula to all WIC participants in the state. The rebate money constitutes a substantial portion of WIC's budget, and it can only be used to expand the programme's reach, thereby providing a broader consumer base of potential formula purchasers. Many states violate the USDA's Food and Nutrition Service restrictions by allowing formula manufacturers to use the trademarked WIC acronym in their printed materials; they are often specified as "WIC approved" and/or "WIC eligible", thus implying a WIC endorsement of the products. In conclusion, in the USA, there is a generalized social preference for formula-feeding over breastfeeding; it has been created and reinforced by the policies, programmes and practices described above which contribute to decisions concerning infant feeding; only political changes - together with individual and family education - will result in positive changes to those misleading infant feeding practices.

Breastfeeding why?

Effects of temporary separation at birth

Bystrova K, Ivanova V, Edhborg M, Matthiesen AS, Ransjo-Arvidson AB, Mukhamedrakhimov R, Uvnas-Moberg K, Widstrom AM. Early contact versus separation: effects on mother infant interaction one year later. Birth 2009;36:97-109

Separation of the mother and baby after birth still persists in many parts of the world, including some parts of Russia, and is often combined with swaddling of the baby. The aim of this study was to evaluate and compare possible long-term effects on mother-infant interaction of practices used in delivery and maternity wards, including practices relating to mother-infant closeness versus separation. A total of 176 mother-infant pairs were randomized into four experimental groups. Group 1 infants were placed skin-to-skin with their mothers after birth and had rooming-in while in the maternity ward; group 2 infants were dressed and placed in their mother's arms after birth and roomed-in with their mother in the maternity ward; group 3 infants were kept in the nursery both after birth and while their mother was

in the maternity ward; group 4 infants were kept in the nursery after birth, but roomed-in with their mother in the maternity ward. Equal numbers of infants were either swaddled or dressed in baby clothes. Episodes of early suckling in the delivery ward were noted. The mother-infant interaction was videotaped one year after birth. The practice of skin-to-skin contact, early suckling, or both during the first 2 hours after birth when compared with separation between mother and infant positively affected maternal sensitivity, the infant's self-regulation, and mother-infant interaction at 1 year after birth. The negative effect of a 2-hour separation after birth was not compensated by the practice of rooming-in. These findings support the presence of an early "sensitive period" during which close contact between mother and infant may induce a long-term positive effect on mother-infant interaction. In addition, swaddling of the infant was found to decrease the mother's responsiveness to the infant, her ability for positive affective involvement with the infant, and the overall mother-infant interaction.

Human Immunodeficiency Virus (HIV)

Becquet R, Bland R, Leroy V, Rollins NC, Ekouevi DK, Cout-soudis A, Dabis F, Coovadia HM, Salamon R, Newell ML. Duration, pattern of breastfeeding and postnatal transmission of HIV: pooled analysis of individual data from West and South African cohorts. PLoS One 2009;4:e7397

Both breastfeeding pattern and duration are associated with acquisition of HIV, but to date a more precise estimate of postnatal transmission at specific time points according to breastfeeding exclusivity has not been reliably quantified. This information is needed to ensure that correct and appropriate messages are provided during infant feeding counselling.

To investigate this question, this study used a pooled dataset from two studies, designed with a similar study approach, but with two crucial differences regarding infant feeding practices: an urban West African setting where breastfeeding cessation at 4 months was recommended and where most women did not practise exclusive breastfeeding; and a rural South African setting where emphasis was placed on the promotion of safer breastfeeding practices, resulting in high rates of exclusive breastfeeding, but where breastfeeding duration was much longer.

A total of 2,190 HIV-infected women and 1,195 breastfed infants who were HIV-negative at or after 30 days were included in the study. In individual analyses of Postnatal Transmission (PT) rates for specific breastfeeding durations, risks among children exclusively breastfed were very similar to those in children predominantly breastfed for the same period. Children exposed to solid foods during the first 2 months of life were 2.9 (1.1–8.0) times more likely to be infected postnatally than children never exposed to solids this early.

The authors concluded that although breastfeeding duration was a major determinant of postnatal HIV transmission, the PT risk did not differ between exclusively and predominantly breastfed children; the negative effect of mixed breastfeeding with solids on PT were confirmed. These findings suggest that the introduction of water-based fluids or fruit juices to exclusively breastfed babies may not be detrimental in terms of HIV transmission.

Becquet R. Antiretroviral therapy among HIV-infected breastfeeding mothers: a promising strategy to prevent HIV transmission through breastmilk in Africa. *Future HIV Therapy* 2007;1:17-21

Kumwenda NI, Hoover DR, Mofenson LM, Thigpen MC, Kafu-lafula G, et al. Extended antiretroviral prophylaxis to reduce breast-milk HIV-1 transmission. *N Engl J Med* 2008;359:119-129

Six Week Extended-Dose Nevirapine (SWEN) Study Team. Extended-dose nevirapine to 6 weeks of age for infants to prevent HIV transmission via breastfeeding in Ethiopia, India, and Uganda: an analysis of three randomised controlled trials. *Lancet* 2008;372:300-313

The administration of antiretroviral drugs to breastfed infants as a post-exposure prophylaxis is an interesting strategy to reduce postnatal HIV transmission, especially for children born to women who present late in pregnancy. But this intervention would need to be maintained throughout the breastfeeding exposure and should ideally involve drugs that are not likely to be associated with the development of viral resistance mutations compromising future treatment options for HIV-infected children. These and other similar findings enhanced a new WHO technical consultation to review the Infant Feeding Recommendations for HIV mothers, which was held in October 2009, and will be publicized at a later date.

Breastfeeding how?

Biological nurturing

Colson SD, Meek JH, Hawdon JM. Optimal positions for the release of primitive neonatal reflexes stimulating breastfeeding. *Early Human Development* 2008;84:441-9

Despite widespread skills-teaching, 37% of UK mothers initiating breastfeeding stop by 6 weeks, suggesting a need to reappraise current support strategies. Rooting, sucking and swallowing have been studied extensively but little is known about the role other primitive neonatal reflexes (PNRs) might play to support breastfeeding. The objectives of this study were to describe and compare PNRs observed during feeding and to investigate whether certain feeding behaviours and positions, collectively termed Biological Nurturing (BN), are associated with the release of those reflexes pivotal in establishing successful feeding. Forty breastfed healthy term mother/baby pairs were recruited. Feeding sessions were video taped in the first postnatal month, either in hospital or at home. Twenty PNRs were validated and classified into four types (endogenous, motor, rhythmic and anti-gravity) and two functional clusters (finding/latching, milk transfer) either stimulating or hindering feeding. Significantly more PNRs were observed as stimulants in semi-reclined postures than when mothers were upright or side-lying. This study is the first to describe a range of semi-reclined maternal postures interacting with neonatal positions, releasing maternal instinctual behaviours and PNRs stimulating breastfeeding. Traditionally the human neonate has been considered a dorsal feeder with pressure needed along the baby's back. Compelling visual data here illustrate that the newborn is an abdominal feeder and, like some other animals, displays anti-gravity reflexes aiding latch. Findings suggest that breastfeeding initiation is innate for both mother and baby, not learned, thus challenging

the routine skills-teaching currently central to breastfeeding support.

Breastfeeding technique

Kronborg H, Væth M. How are effective breastfeeding technique and pacifier use related to breastfeeding problems and breastfeeding duration? *Birth* 2009;36:34-42

The purpose of this study was to investigate how the breastfeeding technique and pacifier use were related to breastfeeding problems and duration. Data were collected from the intervention group of a randomized trial in which health visitors followed mothers for 6 months after childbirth. The health visitors classified the breastfeeding technique at approximately one week after birth and repeated the observation if a correction was necessary. Effective technique included positioning, latching, sucking, and milk transfer. Data on breastfeeding problems and pacifier use were obtained from self-reported questionnaires. The study population included 570 mother-baby pairs for which complete information had been collected. One-half of the mothers showed ineffective breastfeeding technique at the first observation, most frequently ineffective position (61%) and latching (52%). An ineffective technique was significantly associated with mothers reporting early breastfeeding problems, which influenced breastfeeding duration. Pacifier use had an independent negative impact on the duration of breastfeeding. A single correction of the breastfeeding technique was not associated with duration or occurrence of problems.

Bed-sharing

Santos IS, Mota DM, Matijasevich A, Barros AJD, Barros FCF. Bed-sharing at 3 months and breastfeeding at 1 year in Southern Brazil. *J Pediatr* 2009;155:505-9

To investigate the association between bed-sharing at 3 months and breastfeeding at 12, almost all (99%) children born in 2004 in Pelotas, Brazil, were enrolled in a cohort study. Mothers were interviewed at birth, at 3 and at 12 months, to gather information on socio-demographic, reproductive, breastfeeding and bed-

sharing characteristics. The analysis was limited to single birth children who were breastfed at 3 months. Of 4,231 live births, 2,889 (68%) were breastfed at 3 months. Breastfeeding at 12 months reached 59% of the children who bed-shared at 3 months, and 44% of those who did not. Among the children who were exclusively breastfed at 3 months, 75% of those who also bed-shared were still breastfed at 12 months versus 52% of those who were not.

Confident commitment

Avery A, Zimmermann K, Underwood PW, Magnus JH. Confident commitment is a key factor for sustained breastfeeding. *Birth* 2009;36:141-8

The objective of this study was to identify the processes contributing to breastfeeding decisions among American women. Data were initially collected through 24 focus groups consisting of separate groups of pregnant African American and Caucasian women, and breastfeed

ing and formula-feeding mothers from three major American cities. The process that emerged associated with successful breastfeeding was labelled "confident commitment." This process included several components: a) confidence in the process of breastfeeding; b) confidence in the ability to breastfeed; and c) commitment to making breastfeeding work despite obstacles. Contrary to popular conceptions, breastfeeding appears to be a learned skill. If mothers achieved a level of "confident commitment" before birth, they were able to withstand lack of support and common challenges that occurred as they initiated breastfeeding. Without the element of "confident commitment," a decision to breastfeed appeared to fall apart once challenged.

Post partum depression

Field T. *Breastfeeding and antidepressants.* *Infant Behav Dev* 2008;31:481-7

Although a large quantity of literature supports the benefits of breastfeeding, this review suggests that breastfeeding is less common among postpartum depressed women, even though their infants benefit from breastfeeding and they benefit from new available antidepressants drugs. Depressed mothers do not breastfeed in part because they are concerned that antidepressants may have negative effects on their infant. Although sertraline and paroxetine concentrations are not detectable in infants' sera, levels of fluoxetine and citalopram have been detected. These findings are not definitive because they are based on a very small sample of uncontrolled studies. As in the literature on prenatal antidepressant effects, the question still remains whether it is the antidepressants or the untreated depression itself that has the more negative effects on the infant. It is possible that the positive effects of breastfeeding may outweigh the positive effects of the antidepressants for both the mother and the infant. In addition, some alternative therapies - such as vagal stimulation or massage therapy, both noted to reduce depression - may substitute or attenuate the effects of antidepressants. Further studies are needed to determine the optimal course of therapy for the benefit of the depressed, breastfeeding mother and the breastfed infant.

Blenning CE, Paladine H. *An approach to the postpartum office visit.* *Am Fam Physician* 2005;72:2443-4

The postpartum period - typically the first 6 weeks after delivery - may underscore physical and emotional health issues in new mothers. A structured approach to the postpartum office visit ensures that relevant conditions and concerns are discussed and appropriately addressed. Common medical complications during this period include persistent postpartum bleeding, endometritis, urinary incontinence, and thyroid disorders. Breastfeeding education and behavioural counselling may help to prolong breastfeeding. Postpartum depression can cause significant morbidity for the mother and baby; a postnatal depression screening tool may assist in diagnosing depression-related conditions. Decreased libido can affect sexual functioning after a woman gives birth. Physicians should also discuss contraception with postpartum patients, even those who are breastfeeding; progestin-only contraceptives are recommended for

breastfeeding women. The lactational amenorrhea method may be a birth control option but it requires strict criteria to be effective.

Mastitis

Delgado S, Arroyo R, Jiménez E, Fernandez L, Rodriguez JM. *[Infectious mastitis during breastfeeding: an undervalued problem] (I).* *Acta Pediatr Esp* 2009;67: 77-84

Jiménez E, Delgado S, Arroyo R, Fernandez L, Rodriguez JM. *[Infectious mastitis during breastfeeding: an undervalued problem] (II).* *Acta Pediatr Esp* 2009;67:125-32

The mammary gland of the lactating mother contains bacteria such as staphylococci, streptococci and lactic acid bacteria. A variety of factors may lead to the development of an infectious mastitis, one of the main causes for early weaning. This process is characterized by a marked increase in concentration of the bacteria causing mastitis and by the disappearance of other bacteria. The microbial alteration causes an inflammation of the gland and the obstruction of the mammary ducts. In some cases, mastitis progresses, forming a breast abscess. In many other cases, the only symptoms are a sharp pain often described as a pricking sensation in the breast and/or sore nipples. This explains why mastitis often goes undiagnosed. The main bacteria causing mastitis are staphylococci and streptococci. The mastitis-causing strains generally share properties such as resistance to antibiotics and mechanisms to prevent the response of the immune system. A few yeast species, such as *Candida*, may also cause mastitis but their incidence is actually very low. In some women, the immune response may be insufficient to avoid infection. In most other cases, staphylococci may alter the normal immune response by the production of special antigens. Moreover, some bacterial strains can evade the immune system through molecular mimetics with the host. The second predisposing factor is the use of certain antibiotics during the last trimester of pregnancy, or during labour and/or lactation. A small percentage of the staphylococci and streptococci that colonize the mammary gland during pregnancy and lactation are resistant to antibiotics. When inadequate antibiotic therapy is applied, resistant strains are selected that grow without competition and reach abnormally high concentrations, a process that leads to infectious mastitis.

Hale TW, Bateman TL, Finkelman MA, Berens PD. *The absence of *Candida albicans* in milk samples of women with clinical symptoms of ductal candidiasis.* *Breastfeeding Medicine* 2009;4:57-61

The objective of this prospective study was to determine if *Candida albicans* is present in the milk of women suffering from symptoms of severe nipple and deep breast pain. The symptomatic group included women who reported sore, inflamed, or traumatized nipples or intense stabbing or burning pain. The control group included breastfeeding women without symptoms. The skin of the nipple and areola were washed with detergent and thoroughly rinsed. Milk samples were analyzed for the main component of the cell wall of *Candida albicans* and cultured for *Candida* growth. There was no significant difference in the concentration of the main component between the control and symptomatic group. With the exception of one patient, no *Candida* species were culti

vable either before or after the addition of iron to stimulate growth. The addition of pure *Candida albicans* to milk samples suggested that milk does not inhibit *Candida* growth. These data suggest that *Candida albicans* is not present in milk ducts and may not be associated with this syndrome.

Systematic reviews

Rao S, Srinivasjois R, Patole S. Prebiotic supplementation in full-term neonates: a systematic review of randomized controlled trials. *Arch Pediatr Adolesc Med* 2009;163:755-64

searching the Cochrane Central Register of Controlled Trials and other relevant databases, eleven of 24 identified trials, for a total of 1,459 subjects, were selected for analysis. These were all intervention trials comparing formula milk supplemented with or without prebiotics, commenced at or before age 28 days and continued for 2 weeks or longer. Six trials reported significant increases and two reported a trend toward increases in bifidobacteria counts after supplementation. The meta-analysis estimated significant reduction in stool pH in infants who received prebiotic supplementation. Infants who received a supplement had slightly better weight gain (1-2 g) than did controls, with softer and frequent stools similar to breastfed infants. All but one trial reported that prebiotic supplementation was well tolerated. In that trial, diarrhoea (18% vs 4%), irritability (16% vs 4%) and eczema (18% vs 7%) were reported more frequently by parents of infants who received prebiotic supplements. The authors conclude that prebiotic-supplemented formula is well tolerated by full-term infants. It increases stool colony counts of bifidobacteria and lactobacilli and results in stools similar to those of breastfed neonates without affecting weight gain.

However, larger trials with long-term follow-up are needed to determine whether these short-term benefits relate to improved general health and reduced morbidities. Until then, routine supplementation of formula milk with prebiotic oligosaccharides cannot be recommended.

Lakshman R, Ogilvie D, Ong KK. Mothers' experiences of bottle-feeding: a systematic review of qualitative and quantitative studies. *Arch Dis Child* 2009;94:596-601

Most babies in the UK and many other countries receive at least some formula milk. Variations in formula-feeding practices can have both short- and long-term health consequences. For this review, the literature on parents' experiences of bottle-feeding was systematically reviewed to understand how formula-feeding decisions were made. Relevant English-language papers, identified by searching twelve electronic databases, reference lists and related articles and by contacting first authors of included papers, were systematically searched for and appraised. Six qualitative studies and 17 quantitative studies (involving 13,263 participants) were included. Despite wide differences in study design, context, focus and quality, several consistent themes emerged. Mothers who bottle-fed their babies experienced negative emotions such as guilt, anger, worry, uncertainty and a sense of failure. Mothers reported receiving little information on bottle-feeding and did not feel empowered to make decisions. Mistakes in preparation of bottle-feeds were common. No studies examined how mothers made decisions about the frequency or quantity of bottle-feeds. The authors concluded that inadequate information and support for mothers who decide to bottle-feed may put the health of their babies at risk. While it is important to promote breastfeeding, it is also necessary to ensure that the needs of bottle-feeding mothers are met.

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