

Baby-friendly pharmacies

According to the WHO and the International Pharmaceutical Federation, “pharmacists have the potential to improve therapeutic outcomes and patients’ quality of life within available resources, and must position themselves at the forefront of the health care system”. Expanding on this, one could add that pharmacies may play an important role in health promotion, including nutrition. Instead of restricting their role to the distribution and sale of foods for medical purposes, pharmacies could become settings in which optimal infant and young child feeding is protected, promoted and supported according to national policies. Based on these principles, an Italian non-for-profit association, Il Melograno, that promotes family-centred birth practices since 1981, has recently launched the Baby Friendly Pharmacy Initiative (BFPI).

The BFPI was conceived in early 2007 and was presented later that year at a meeting organised in Verona by the Pharmaceutical Association in collaboration with the local health authority. Later that same year, the BFPI was presented and discussed at a congress on Baby Friendly Community Initiatives organised by UNICEF Italy in Milano. The first BFPs were accredited in Verona in 2007 and in Bassano in 2008. During 2008 and 2009, 17 pharmacies applied to become baby friendly, and 63 pharmacists underwent specific training based on WHO/UNICEF materials. Many other health professionals, as well as peer counsellors and mother-to-mother breastfeeding support groups, were involved in activities.

The BFPI is rapidly spreading to other cities and regions of Italy. On 25 March 2010, a pharmacy in Verona was accredited “baby friendly” during a ceremony attended by the Italian Minister of Health, who thus officially endorsed the initiative. The BFPI is also endorsed by the Italian Committee for UNICEF, the Cultural Association of Paediatricians, and IBFAN Italy.

To become baby friendly, a pharmacy has to comply with the following 9 steps:

1. Have a written protocol on infant and young child feeding, consistent with the national policy and the *International Code of Marketing of Breast-milk Substitutes* and subsequent relevant WHA Resolutions.
2. Train all personnel in the skills necessary to implement the protocol.
3. Inform all mothers on the benefits of breastfeeding and the risks of formula feeding.
4. Support and encourage all mothers to initiate and maintain breastfeeding.
5. Set up an appropriate corner to accommodate mothers with their infants and children.
6. Promote the representation of breastfeeding as the norm and avoid the representation of bottle feeding.
7. Sell breastmilk substitutes only upon specific request and avoid any sale promotion.
8. Purchase and sell breastmilk substitutes at the ordinary market price, avoid discount campaigns and reject promotional gadgets for mothers.
9. Actively promote community initiatives and projects, networking with all actors interested in the protection, promotion and support of breastfeeding.

Each of the 9 steps has between one and four criteria for evaluators to check the degree of compliance with any given step. Many of the steps and criteria are derived from those of the Baby Friendly Hospital and Community Initiatives, with which the readers of *Breastfeeding Briefs* are familiar. Interestingly, criteria for Steps 7 and 8 are new and specific to pharmacies.

Step 7 requires that the pharmacy remove all products under the scope of the International Code from its shelves and place them behind the counter or in a separate room, outside of the self-service area. Customers thus have to make a specific request for these products and the trained pharmacist may at this point ask the reason for such a request and help the mother to overcome breastfeeding problems, if any.

Step 8 implies that the pharmacy refuses to serve as an intermediate promoter of campaigns designed by manufacturers to increase their sales. The pharmacy therefore rejects advertisements, gadgets, printed and video materials, discounts, coupons, premiums, tie-in sales and other forms of promotion, refuses to hand them over to customers, and does not accept special displays of products under the scope of the Code.

Once accredited as baby friendly, the pharmacy is periodically submitted to an external evaluation that assesses whether it still complies with the 9 Steps and their criteria.

Should the BFPI extend to all of the 17,000 pharmacies and 70,000 pharmacists in Italy, the rates of exclusive breastfeeding and duration of breastfeeding would undoubtedly rise to the recommended levels.

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¹ Wiedenmayer K, Summers RS, Mackie CA, Gous AGS, Everard M, Tromp D. Developing pharmacy practice: a focus on patient care. WHO and International Pharmaceutical Federation, Geneva, 2006

² Delaini P, Cattaneo A, Fusaro N, Relaini C. Farmacie e sostegno dell'allattamento materno: un approccio di rete tra operatori sanitari. *Dialogo sui farmaci* 2009;2:79-80

³ www.melograno.org and <http://progettifaam.org>

Baby-friendly Hospital Initiative

Abrahams SW, Labbok MH. Exploring the impact of the Baby-Friendly Hospital Initiative on trends in exclusive breastfeeding. *International Breastfeeding Journal* 2009;4:11

This study used country-level data from UNICEF and Demographic and Health Surveys to examine the relationship between the Baby Friendly Hospital Initiative (BFHI) and trends in exclusive breastfeeding (EBF) in 14 developing countries. Statistically significant upward trends in EBF in infants under 2 and 6 months were observed only during the period following BFHI implementation, not before. BFHI implementation was associated with average annual increases of 1.54 percentage points in the rate of EBF under 2 months and 1.11 percentage points under 6 months; however, these rates were not statistically different from pre-BFHI trends. Small sample sizes may have contributed to the fact that results do not demonstrate a significant difference from pre-BFHI trends. It is difficult to show a positive effect of the BFHI on EBF using observational surveys. There are, however, several controlled studies that provide evidence of this positive effect.

Bartick M, Stuebe A, Shealy KR, Walker M, Grummer-Strawn LM. Closing the quality gap: promoting evidence-based breastfeeding care in the hospital. *Pediatrics* 2009;124:e793-e802

In the US, a 2007 Centre for Disease Control (CDC) survey of maternity facilities documented poor adherence with evidence-based practice. Of a possible score of 100 points, the average hospital scored only 63, with great regional disparities. Inappropriate provision and promotion of infant formula were common despite evidence that such practices reduce breastfeeding success. About 24% of facilities reported giving regularly non breastmilk supplements to more than half of all healthy, full-term infants. The quality of breastfeeding care ranged from comprehensive BFHI certification to compliance with only some steps. The article also insisted on other approaches to improving quality of breastfeeding care: (1) education of hospital decision-makers, (2) recognition of excellence, (3) oversight by accrediting organizations, (4) public reporting of indicators of the quality of breastfeeding care, (5) pay-for-performance incentives to hospitals that meet certain quality standards, and (6) regional collaborations in which staff from different hospitals work together to learn from each other and meet quality improvement goals at their home institutions.

García-de-León-González R, Oliver-Roig A, Hernández-Martínez M, Mercader-Rodríguez B, Muñoz-Soler V, Maestre-Martínez MI, Monreal-Tomás AB. Becoming baby-friendly in Spain: a quality-improvement process. *Acta Paediatr* 2010 (E-pub ahead of print)

This paper describes in detail the long quality-improvement process undertaken by the staff of a small district hospital in Yecla, Spain, to become "Baby Friendly", and the effect of the intervention on breastfeeding rates. The intervention included cycles of process-oriented training, audit and feedback, which aimed at progressively improving the quality of breastfeeding support both in the hospital and at community level. Compliance with the global criteria of the BFHI increased progressively, and in 2004 all criteria were met. Random samples for a total of 1,273 infants born in the

hospital were followed up in primary care centres between 1997 and 2005. The median duration of breastfeeding went up gradually from the start of the intervention. The rate of breastfeeding at discharge went up from 78% in 1997 to 95% in 2005; the rate at 7 months increased from 12% to 50% during the same period. Overall, the likelihood of being breastfed at different ages among infants born in 2005 was 45% to 86% higher than among infants born in 1997.

Bramson L, Lee JW, Moore E, Montgomery S, Neish C, Bahjri K, Lopez Melcher C. Effect of early skin-to-skin mother-infant contact during the first 3 hours following birth on exclusive breastfeeding during the maternity hospital stay. *J Hum Lact* 2010;26:130-7

This was a nurse-driven, hospital-based, prospective cohort study of data collected in 19 hospitals in San Bernardino and Riverside counties, California, on all mothers (n = 21,842) who delivered a singleton infant (37-40 weeks gestation) between July 2005 and June 2006. Analysis of the data showed that the intended maternal infant-feeding method (measured prior to birth), the socio-demographic characteristics, intrapartum variables, and early skin-to-skin mother-infant contact during the first 3 hours following birth, were associated with exclusive breastfeeding during the maternity hospitalization. Compared to mothers with no early skin-to-skin contact, exclusive breastfeeding was almost 40% higher in mothers who experienced skin-to-skin contact for 1-15 minutes, almost 70% after 16-30 minutes, more than double after 31-59 minutes, and three times more after 1 hour or more. These results demonstrate a dose-response relationship between early skin-to-skin contact and breastfeeding exclusivity.

Zakarija-Grković I, Burmaz T. Effectiveness of the UNICEF/WHO 20-hour course in improving health professionals' knowledge, practices, and attitudes to breastfeeding: before/after study of 5 maternity facilities in Croatia. *Croat Med J* 2010;51:396-405

This paper describes the changes in knowledge, attitude and practice brought about by the new UNICEF/WHO 20-hour course on health professionals before (n=424) and after (n=308) a training. The training was carried out in 5 of the 9 maternity hospitals in southern Croatia between December 2007 and February 2009. Prior to it, only one-fifth of the health professionals knew that breast preparation in pregnancy was unnecessary; this increased to 57% after the training. The proportion of professionals who recognized the hospital practices that support breastfeeding and the signs of poor positioning nearly doubled. On the other hand, the proportion who correctly recommended immediate skin-to-skin contact after Caesarean section under local anaesthesia did not improve significantly, though younger respondents (<36 years) were more likely to support this practice. Although the proportion of health professionals who correctly managed mastitis improved significantly after the training, the proportion who inappropriately recommended partial or complete cessation of breastfeeding remained high at 47%. Staff who had positive attitudes toward breastfeeding increased from 65% to 79%, whereas those whose attitude was neutral dropped from 27% to 10%.

Feldman-Winter L, Barone L, Milcarek B, Hunter K, Meek J, Morton J, Williams T, Naylor A, Lawrence RA. Residency curriculum improves breastfeeding care. *Pediatrics* 2010;126:289-297

This study evaluated whether a specific residency curriculum improved physicians' knowledge, practice and confidence in providing breastfeeding care and whether implementation of this curriculum was associated with increased breastfeeding rates in patients. A cohort of 417 residents was enrolled in a controlled trial of a new curriculum developed by the American Academy of Pediatrics in conjunction with experts from other professional associations. Six intervention residency programmes in the USA implemented the curriculum, whereas seven control programmes did not. Residents completed tests before and after implementation. Breastfeeding rates were derived from randomly selected medical charts in hospitals and clinics at which residents had trained. Trained residents were respectively 2.8, 2.2 and 2.4 times more likely than residents at control sites to show improvement in knowledge, practice and confidence. Infants at the institutions in which the curriculum was implemented were 4.1 times more likely to breastfeed exclusively 6 months after intervention.

Breastfeeding why?

Cost

Bartick M, Reinhold A. The burden of suboptimal breastfeeding in the United States: a pediatric cost analysis. *Pediatrics* published online Apr 5, 2010

The authors computed current costs for the care of necrotizing enterocolitis, otitis media, gastroenteritis, hospitalization for lower respiratory tract infections, atopic dermatitis, sudden infant death syndrome, childhood asthma, childhood leukemia, type 1 diabetes mellitus and childhood obesity, and compared them to the projected costs if 80% and 90% of US families could comply with the recommendation to exclusively breastfeed for 6 months. The cost analysis was conducted using the risk ratios reported by the Agency for Healthcare Research and Quality - excluding type 2 diabetes because of insufficient data -, the 2005 Centers for Disease Control and Prevention breastfeeding rates, and the 2007 dollar values. If 90% of families could comply with the recommendation to breastfeed exclusively for 6 months, the US would save \$13 billion per year and prevent 911 deaths, nearly all of which would be in infants; at 80% compliance, the US would save \$ 10.5 billion and 741 deaths. Investment in strategies to promote longer breastfeeding duration and exclusivity are cost-effective.

Formula with pre or probiotics

Thomas DW, Greer FR & Committee on Nutrition; Section on Gastroenterology, Hepatology and Nutrition. *Pediatrics* published online Nov 29, 2010.

This clinical report reviews the currently known health benefits of probiotic and prebiotic products, including those added to commercially available infant formula and other food products for children. Probiotics are supplements or foods that contain viable micro-organisms that cause alterations of the host's micro flora. Use of probiotics has been shown to be modestly effective in

randomized clinical trials (RCTs) in: (1) treating acute viral gastroenteritis in healthy children; and (2) preventing antibiotic-associated diarrhoea in healthy children. There is some evidence that probiotics prevent necrotizing enterocolitis in very low-birth weight infants (birth weight between 1,000 and 1,500 g), but more studies are needed.

Prebiotics are supplements or foods that contain a non-digestible food ingredient that stimulates selectively the favorable growth and/or activity of indigenous probiotic bacteria. Human milk contains substantial quantities of prebiotics, the most plentiful of which are oligosaccharides. Oligosaccharide prebiotics are also added to many commercially available dietary food supplements. Addition of probiotics to powdered infant formula has not been demonstrated to be harmful to healthy term infants. On the other hand, evidence of clinical efficacy for their addition is insufficient to recommend the routine use of these formulas.

Multiple sclerosis

Langer-Gould A, Huang S, Gupta R, Leimpet AD, Greenwood E, Albers K B, Van Den Eeden SK, Nelson L M. Exclusive Breastfeeding and the Risk of Postpartum Relapses in Women With Multiple Sclerosis. *Arch Neurol*. 2009;66(8):958-963

This study was carried out to determine if exclusive breastfeeding protects against postpartum relapses of multiple sclerosis (MS) and, if so, whether this protection is related to prolonged lactational amenorrhea. Structured interviews were conducted to assess clinical, menstrual, and breastfeeding history during each trimester of the pregnancy as well as at 2, 4, 6, 9, and 12 months postpartum; the study collected neurological examination findings from the physicians treating women with MS. Hazard ratios (HRs) were adjusted concerning disease severity and age for 32 pregnant women with MS; there were 29 age-matched pregnant controls. Of the 52% with MS who did not breastfeed or began regular supplemental feedings within 2 months postpartum, 87% had a postpartum relapse, compared with 36% women with MS who breastfed exclusively for at least 2 months postpartum. Sixty percent reported that the primary reason for foregoing exclusive breastfeeding was to resume MS therapies. The women who breastfed exclusively had a later return of menses ($P=.001$) than those who did not breastfeed exclusively, and lactational amenorrhea was associated with a reduced risk of postpartum relapses ($P=.01$). The findings suggest that exclusive breastfeeding and concomitant suppression of menses significantly reduce the risk of postpartum relapses in MS and question the benefits of foregoing breastfeeding in order to resume MS therapy; this however, should be confirmed in a larger study.

Breastfeeding how?

Maternity leave

Guendelman S, Kosa JL, Pearl M, Graham S, Goodman J, Kharrazi M. Juggling work and breastfeeding: effects of maternity leave and occupational characteristics. *Pediatrics* 2009;123:e38-e46

This study examined the relationship between breastfeeding and maternity leave before and after delivery among working mothers in Southern California. Califor-

nia is one of only five States in the US providing paid maternity leave that can be extended for infant bonding. Drawing from a case-control study of preterm birth and low birth weight, 770 full-time working mothers were compared based on whether they established breastfeeding in the first month or not. For those who did breastfeed, duration was examined. Eligibility conditions included: participation in California's Prenatal Screening Program; a live birth between July 2002 and December 2003; mother at least 18 years old; singleton birth without congenital anomalies; US mailing address. The comparison between women not returning to work with mothers who had a maternity leave of 6 weeks or 6-12 weeks after delivery showed an association of, respectively, a fourfold and a twofold higher risk of failure to establish breastfeeding and an increased probability of cessation after successful establishment. The impact of short postpartum leave on breastfeeding cessation was stronger among non managers, women with inflexible jobs, and with high psychosocial distress. Antenatal leave in the last month of pregnancy was not associated with breastfeeding establishment or duration. The results show that postpartum maternity leave may have a positive effect on breastfeeding among full-time workers, particularly those who hold non-managerial positions, who lack job flexibility, or experience psychosocial distress. Paediatricians should encourage patients to take maternity leave and advocate for extending paid postpartum leave and flexibility in working conditions for breastfeeding women.

Weight loss after birth

Flaherman VJ, Bokser S, Newman TB. First-day newborn weight loss predicts in-hospital weight nadir for breast-feeding infants. Breastfeeding Medicine 2010;5:165-8

This study evaluated, in 1,049 newborn infants in San Francisco, California, the relationship between weight loss in the first 24 hours after birth and subsequent weight loss after controlling for gestational age, sex, delivery method and feeding type. The mean lowest weight loss recorded in hospital was 6% ($\pm 2.6\%$) at a mean age of 38.7 hours (± 18.5). While in hospital, 6.4% of infants lost 10% of birth weight. Infants losing 4.5% of birth weight in the first 24 hours had a 3.57 (1.75 to 7.28) greater risk of eventual in-hospital weight loss of 10%. Infants with high first-day weight loss should be targeted for interventions to improve breastfeeding.

Kangaroo mother care

Gathwala G, Singh B, Singh J. Effect of kangaroo mother care on physical growth, breastfeeding and its acceptability. Tropical Doctor 2010;40:199-202

This randomised controlled trial, carried out in the state of Haryana, India, aimed at determining whether kangaroo mother care (KMC) would improve growth and breastfeeding in 110 low birth weight newborn infants assigned over 16 months to KMC (at least 6 hours per day even after discharge from intensive care) or to a control group (standard incubator followed by open crib care). The mean gestational age was about 35 weeks and the mean birth weight 1.69 kg in both groups. KMC was initiated at a mean age of 1.7 days and lasted almost 10 days on average. The mean weight gain in the KMC group was 21.92 g/day compared to 18.61 in the control group; the mean length gain was 1.03 cm/week

vs 0.74, respectively; the mean gain in head circumference was 0.59 vs 0.47 cm/week. These differences were all statistically significant. The rate of exclusive breastfeeding at 3 months was 88% in the KMC group compared to 72% in the control group. KMC was also well accepted by both mothers and nursing staff.

Breastmilk odour

Nishitani S, Miyamura T, Tagawa M, Sumi M, Takase R, Doi H, Moriuchi H, Shinohara K. The calming effect of a maternal breast milk odour on the human newborn infant. Neuroscience Research 2009;63:66-71

This study examined the effects of the odours from mother's milk, other mother's milk and formula milk on pain responses in newborns undergoing routine heel sticks. Forty-eight healthy infants were assigned randomly to four groups, an own mother's breast milk odour group (OwnMM), another mother's breast milk odour group (OthMM), a formula milk odour group (FM) and a control group (CG). To assess infant distress in response to the heel sticks, their crying, grimacing and motor activities were recorded during the experiment as behavioural indices of the pain response. After the heel stick, the behavioural indices of the OwnMM group were lower than those of other groups. By contrast, the OthMM and FM groups did not differ significantly from the control group. Salivary cortisol was measured as a biochemical index before and after heel stick in the control group and OwnMM infants group. The level of salivary cortisol was significantly increased in control infants, but not in OwnMM infants. These results suggest that pain is relieved in human newborns when they are exposed to odours from their mother's milk.

Risk factors

Thompson JF, Heal LJ, Roberts CL, Ellwood DA. Women's breastfeeding experiences following a significant primary postpartum haemorrhage: a multicentre cohort study. International Breastfeeding Journal 2010;5:5

The aim of this study was to describe breastfeeding during the first week and at 2 and 4 months in a group of 206 women following a significant postpartum haemorrhage (PPH) (blood loss of 1,500 ml or more in the 24 hours following childbirth, and/or a significant fall in haemoglobin concentration). Of these women, 63% fully breastfed their babies from birth (while 85% said they had hoped to do so). Only 52% of the mothers who intended to either fully or partially breastfeed were able to give their baby the opportunity to suckle within an hour of birth. Delays were longer in women with greater estimated blood loss; women with the longest delays in breastfeeding were less likely to initiate full breastfeeding. Overall, 58% and 45% of women with significant PPH were fully breastfeeding at respectively 2 and 4 months. Women with significant PPH may require greater support, education and assistance in initiating and sustaining breastfeeding. In particular, enabling the opportunity for the newborn to suckle as soon as is practicable should be encouraged.

Khoo AKK, Dabbas N, Sudhakaran N, Ade-Ajayi N, Patel S. Nipple pain at presentation predicts success of tongue-tie division for breastfeeding problems. *Eur J Pediatr Surg* 2009; 19: 370–373

In a clinic specialised in the assessment and treatment of tongue-tie, 62 infants <90 days-old underwent frenulotomy and completed follow-up. A standardised, structured symptom questionnaire before the intervention and 3 months later was filled to determine preoperative predictors of successful outcome. At presentation, 52 mothers (84%) reported nipple pain, and 32 (52%) nipple trauma. Three months after frenulotomy, 78% of respondents were still breastfeeding. Feed lengths (mean reduction: 17 minutes) and time between feeds (mean increase: 38 minutes) had significantly improved, as had feeding difficulty (mean improvement in self-rated difficulty score: 42%). Those having difficulty breastfeeding due to nipple pain showed a significant long-term benefit from frenulotomy; pre-frenulotomy nipple pain was associated with an almost 6-fold increased likelihood of breastfeeding at 3 months in adjusted analysis.

Nommsen-Rivers LA, Chantry CJ, Pearson JM, Cohen RJ, Dewey KG. Delayed onset of lactogenesis among first-time mothers is related to maternal obesity and factors associated with ineffective breastfeeding. *Am J Clin Nutr* 2010;92:574–84

This study examined variables associated with delayed onset of lactogenesis among 431 first-time mothers who delivered at term and initiated breastfeeding. Interviews were conducted during pregnancy and at 0, 3, and 7 days postpartum; obstetric and newborn information was extracted from medical records. Onset of lactogenesis was defined as delayed if it occurred after 72 hours. Median onset of lactogenesis was 68.9 hours postpartum; 44% of mothers experienced delayed onset of lactogenesis. In a multivariate model adjusted for prenatal feeding intentions, independent risk factors for delayed onset of lactogenesis were: maternal age ≥ 30 years, body mass index in the overweight or obese range, birth weight >3,600 g, absence of nipple discomfort between 0-3 days postpartum, and infant failing to breastfeed well ≥ 2 times in the first 24 hours. Public health and obstetric and maternity care interventions (10 steps of BFHI and 7 steps of BFCI) are needed to address delayed onset of lactogenesis.

Pearce A, Li L, Abbas J, Ferguson B, Graham H, Law C and the Millennium Cohort Study Child Health Group. Childcare use and inequalities in breastfeeding: findings from the UK Millennium Cohort Study. *Arch Dis Child* published online June 7, 2010

In the UK, breastfeeding rates are low and socially distributed. Childcare provides a potential setting for breastfeeding promotion. Using data from a cohort of 18,050 infants, this study compared breastfeeding for at least 4 months according to: informal childcare (care by friends, grandparents, other relatives), formal childcare (nurseries) - both lasting at least 10 hours a week and commencing before the age of 4 months - and being cared for only by a parent - including childcare for less than 10 hours a week. Comparisons were made overall and by socio-economic group. Compared to being looked after only by a parent, informal (both part-time and full-time) and formal (only full-time) childcare were associated respectively with a 49% and 16% reduced likelihood of breastfeeding. In informal childcare, the reduced likelihood of breastfeeding was similar across all socio-economic groups, whereas in formal childcare

it was only seen for mothers from managerial and professional backgrounds, those who had a university degree, or were living in double-headed families. In contrast, lone mothers were more likely to breastfeed if their infant was cared for in formal childcare.

HIV

Couto de Oliveira MI, Silveira da Silva K, Gomes Junior SC, Matos Fonseca V. Delivering rapid HIV tests results after delivery: a threat to breastfeeding at birth. *Rev Saúde Pública* 2010;44:60-9

This study examined the possible association between the moment rapid HIV test results were given before/ during delivery and the failure to breastfeed during the first hour of life. To test this hypothesis a group of 944 mothers in five baby-friendly hospitals of the "high-risk pregnancy system" in Rio de Janeiro, Brazil, were followed in 2006, from the moment of administering the rapid HIV test to the first time the baby breastfed. Among participants, 15.6% received the rapid HIV testing result before delivery and 30.8% after delivery; a further 53.6% had not been informed of the results at the time of the interview. Prevalence of failure to breastfeed in the first hour of life was 52.5%. Having received the rapid testing result after delivery doubled the risk of failing to breastfeed. Other risk factors included: non-white skin colour, low maternal income (less than minimum wage), delivery by C-section, mother's lack of desire to breastfeed at birth, and mother's report that the hospital staff did not listen to her. Lack of knowledge of HIV testing by the mother was found to be a protective factor. HIV testing should be made widely available during antenatal care; rapid testing should be performed upon admission at the maternity hospital only when indicated, and results should be promptly delivered to expecting mothers.

WHO, UNAIDS, UNFPA, UNICEF. Guidelines on HIV and infant feeding. 2010. Principles and recommendations for infant feeding in the context of HIV and a summary of evidence. ([WHO document online](#)).

Evidence has been reported that antiretroviral (ARV) interventions to either the HIV-infected mother or HIV-exposed infant can significantly reduce the risk of post-natal transmission of HIV through breastfeeding. This evidence has major implications on how women living with HIV might feed their infants, and how health workers should counsel these mothers. In light of this, the World Health Organization (WHO) set up a Guideline Development Process and a Guideline Development Group (October 2009), and drafted Guidelines. These stipulated new guiding principles and revised previous recommendations on infant feeding and HIV based on the evidence presented in systematic reviews, GRADE evidence profiles, risk-benefit tables, as well as on discussions on the potential impact of the draft recommendations, human rights issues and costs. The *WHO Guidelines* recommend that national authorities in each country decide which infant feeding practice - i.e. breastfeeding with an antiretroviral intervention to reduce transmission or avoidance of all breastfeeding altogether - will be primarily promoted and supported by the national Maternal and Child Health services. This differs from the previous recommendations that expected health workers to counsel individually all HIV-infected mothers about the various infant feeding options; it was then for the mothers to "make an informed decision". Where ARVs are

available, mothers known to be HIV-infected are now recommended to breastfeed until 12 months of age. The recommendation that replacement feeding should not be used unless it is acceptable, feasible, affordable, sustainable and safe (AFASS) remains, but the acronym is replaced by more common, everyday language and terms. Recognizing that ARVs will not be rolled out everywhere immediately, guidance is given on what to do in their absence.

Iodine deficiency

Mulrine HM, Skeaff SA, Ferguson EL, Gray AR, Valeix P. Breast-milk iodine concentration declines over the first 6 months postpartum in iodine-deficient women. *Am J Clin Nutr* 2010;92:849-56

Little is known about the iodine status of lactating mothers and of their infants or, if deficient, the supplementary amount of iodine required. Iodine deficiency in pregnant women and lactating mothers, and consequently, in their infants, is more widespread than thought and many countries provide recommendations for supplements. This randomized controlled trial carried out in New Zealand, determined maternal and infant iodine status and the breastmilk iodine concentration (BMIC) over the first 6 months of breastfeeding in 109 lactating women: on a daily basis, 56 received a placebo, 27 received 75 µg of iodine, and 26 received 150 µg of iodine after their infant's birth up until 24 weeks postpartum. Over the period of 24 weeks, the median urinary iodine concentration (UIC) of non-supplemented women and their infants indicated iodine deficiency (20-41 µg/L in women and 34-49 µg/L in infants, with 100 µg/L being the minimum normal value). Mean maternal UIC was 2.1-2.4 times higher in supplemented women than in non-supplemented ones, but did not differ between the two supplemented groups. In the placebo group, BMIC decreased by 40% over 24 weeks; it was respectively 1.3 and 1.7 times higher in women supplemented with 75 µg and 150 µg per day than in the group of non-supplemented women. The authors concluded that BMIC decreased in the first 6 months in these iodine-deficient lactating women. Supplementation with 75 or 150 µg of iodine per day increased the BMIC, but was insufficient to ensure adequate iodine status in either the women or their infants.

Comfort with the idea of formula feeding

Nommsen-Rivers LA, Chantry CJ, Cohen RJ, Dewey KG. Comfort with the idea of formula feeding helps explain ethnic disparity in breastfeeding intentions among expectant first-time mothers. *Breastfeeding Med* 2010;5:25-33

This study examined the relative contributions of breastfeeding and formula-feeding psychosocial factors in explaining disparities in breastfeeding intentions. The sample consisted of 532 first-time expecting women in Sacramento, California. The interview referred to exposure to breastfeeding by others, comfort with the idea of breastfeeding and of formula-feeding, and breastfeeding self-efficacy in relation to the intensity of the intention to fully breastfeed for 6 months. The sample included 41% white non-Hispanic, 27% Hispanic, 14% African-American, 12% Asian and 6% mixed ethnicity mothers. In the overall sample, formula-feeding comfort, breastfeeding comfort, and breastfeeding self-efficacy all independently predicted breastfeeding intention, but formula-feeding comfort had the largest effect: a threefold in-

crease of intention for each 1-level decrease, among four levels. The odds of stronger breastfeeding intention were 63% lower for African-American vs non African-American women. African-American women had higher formula-feeding comfort but similar breastfeeding, self-efficacy and exposure comfort. Formula-feeding comfort mediated 37% of the disparity in breastfeeding intentions between African-American and non African-American women. The conclusion was that formula-feeding comfort seems to predict and mediate ethnic disparity in breastfeeding intention. Research and public health efforts aimed at increasing exclusive breastfeeding rates should include consideration of formula-feeding attitudes.

Peer support

Cameron AJ, Hesketh K, Ball K, Crawford D, Campbell KJ. Influence of peers on breastfeeding discontinuation among new parents: the Melbourne InFANT program. *Pediatrics* 2010;126:e601-e607

Data from 501 mothers belonging to 62 first-time parent groups initiated about 6 weeks after birth, were used to investigate whether the proportion of breastfeeding mothers in these groups influenced the likelihood of ceasing breastfeeding, and whether this was independent of their socio-economic position. Parent groups were divided into those in which less than 25% of mothers had ceased breastfeeding by 6 weeks (low-cessation groups) and those in which more than 25% had ceased by 6 weeks (high-cessation groups). With the exclusion of mothers who had already ceased breastfeeding by 6 weeks, the proportion of mothers who ceased breastfeeding between the time of parent group initiation and 6 months was higher in high-cessation than in low-cessation groups (37.4% vs 21.7%). After adjustment for a number of variables, including socioeconomic position, membership in a group in which a large proportion of mothers had ceased breastfeeding by 6 weeks was strongly related to cessation before 6 months.

Hoddinott P, Britten J, Prescott GJ, Tappin D, Ludbrook A, Godden DJ. Effectiveness of policy to provide breastfeeding support groups (BIG) for pregnant and breastfeeding mothers in primary care: cluster randomised controlled trial. *BMJ* 2009;338:a3026

Hoddinott P, Britten J, Pill R. Why do interventions work in some places and not in others: a breastfeeding support group trial. *Soc Sci Med* 2010;70:769-78

This study assessed the effectiveness and cost-effectiveness of a policy to provide breastfeeding support groups for pregnant and breastfeeding women in 14 out of 66 eligible general practice clusters in Scotland. The clusters were randomised to an intervention group (setting up new breastfeeding support groups) and a control group. Between 1 February 2005 and 31 January 2007, there were 9,747 birth records for intervention localities and 9,111 for control localities. The number of breastfeeding groups increased from 10 to 27 in intervention localities where 1,310 women attended, and remained at 10 groups in control localities. There were no significant differences in breastfeeding outcomes: any breastfeeding at 6-8 weeks declined only from 27% to 26% in intervention localities and increased from 29% to 30% in control localities. Any breastfeeding at 6-8 weeks increased from 38% to 39% in localities not participating in the trial. Women who attended breastfeeding groups were older than women initiating breastfeed-

ing who did not attend such groups; they had higher incomes than women in the control localities who attended postnatal groups. The costs of running groups were similar to the costs of visiting women at home. In the three localities where breastfeeding rates declined, there were higher levels of negative aspects (deprivation, unsuitable premises and geographical barriers to inter-professional communication); less personnel resources (staff shortages, high workload and low morale); and higher levels of organisational change. Managers focused on solving these problems rather than delivering the policy. In contrast, where breastfeeding rates increased the basic situation was less problematic: there was more evidence of leadership, a focus on the policy, multi-disciplinary partnership and reflective action cycles. In implementing interventions of this kind, more attention should be given to the complex systems within which policies and interventions occur, to identify and understand the favourable conditions necessary for successful intervention.

Systematic reviews

Ingram L, MacArthur C, Khan K, Deeks JJ, Jolly K. Effect of antenatal peer support on breastfeeding initiation: a systematic review. CMAJ 2010;182:1739-46

This systematic review selected and analysed 11 studies (randomized controlled trials, quasi-randomized trials and cohort studies) to examine the effect of antenatal peer support on rates of breastfeeding initiation. The studies involved 5,445 women; seven of them (4,416 women) evaluated universal peer support, four (1,029 women) targeted antenatal peer support. In the three high quality universal peer support studies, which involved low-income women, there was no effect on initiation of breastfeeding.

In the three high quality antenatal peer support studies that targeted women considering breastfeeding, the risk of not initiating breastfeeding was reduced by 36%. Universal antenatal peer support does not appear to

improve rates of breastfeeding initiation, but targeted antenatal peer support may be beneficial. This effect may be related to context, however, so any new peer-support programme should undergo concurrent high-quality evaluation.

Wakefield MA, Loken B, Hornik RV. Use of mass media campaigns to change health behaviour. Lancet 2010;376:1261-71

Mass media campaigns are widely used to expose high proportions of large populations to messages through routine use of media, such as television, radio, and newspapers. Exposure to such messages is generally passive. Such campaigns frequently compete with factors such as pervasive product marketing, powerful social norms, and behaviours driven by addiction or habit. This review looked at outcomes of mass media campaigns for various health-risk behaviours (ie. use of tobacco and alcohol, risk factors for heart disease, sex-related behaviours, road safety, cancer screening and prevention). Media and mass campaigns to promote breastfeeding have been organised in the past, but, from the 1990s onwards, reports and evaluations have been scarce or non-existent. Two examples of such breastfeeding promotion campaigns were included in the review, one from Jordan and one from Armenia. Both were one-off (or episodic) campaigns adapted to cultural preferences and focusing on hospital practices. They were accompanied by health-worker training and/or restricted marketing of infant formula. In both cases, evidence of any benefit concerning higher breastfeeding rates for example, was weak.

This said, the review concludes that, overall, mass media campaigns can produce positive changes or prevent negative changes in health-related behaviours across large populations. Concurrent availability of required services and products, availability of community-based programmes and policies that support behaviour change may contribute to success. Investment in longer and better-funded campaigns to achieve adequate population exposure to media messages are necessary.

Prepared by the Geneva Infant Feeding Association (GIFA), an affiliate of the International Baby Food Action Network (IBFAN).

Editors : Adriano Cattaneo, Marina Ferreira Rea. Elaine Petitot-Côté revised and edited the text. Maha Lahode laid out the issue. Hard copies of Breastfeeding Briefs will be sent upon request to:

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