



MATERNAL AND NEWBORN CARE

Breastfeeding: A woman's reproductive right[☆]

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Abstract This paper explores the importance of breastfeeding as a women's issue in the health and political contexts, covering the role of global institutions, health practitioners, and national decision-makers in furthering the goals of supporting breastfeeding as a woman's right to health. The roles and responsibilities of the Obstetrician/Gynecologist are highlighted.

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1. Why breastfeeding?

It is estimated that breastfeeding saves about 5–6 million children's lives annually from common infectious diseases [1]. The Lancet Child Survival Series estimates that 1.3 million additional lives could be saved annually if women were enabled to achieve 6 months exclusive breastfeeding with continued breastfeeding thereafter [2]. Early breastfeeding for thermal regulation and continued breastfeeding with complementary feeding could save an additional 800,000 lives. Stated another

way, 3500 unnecessary child deaths occur every day because support for exclusive breastfeeding is not forthcoming, contributing to a total of 5750 deaths that occur daily for lack of optimal infant and young child feeding.

Only breastfeeding, and breastfeeding alone without other foods or liquids, provides the ideal nourishment for infants for the first six months of life, as it contains all the water, nutrients, antibodies, and other factors an infant needs to thrive. Its components constantly adapt to the child's needs and environmental challenges. There are many well-recognized risks of not breastfeeding:

Lack of breastfeeding is associated with:

- Decreased survival: Studies in developing and industrialized countries confirm risks of not breastfeeding, particularly increased sepsis, NEC, diarrhea, pneumonia, SIDS deaths, and other physical problems among both term and preterms [3–16].

[☆] The Center for Infant and Young Child Feeding and Care in the School of Public Health at UNC–Chapel Hill was established in 2006 and exists to further statewide, national and global understanding and support for the mother/child dyad as key to the achievement of optimal infant and young child feeding and associated reproductive health.

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- Increased morbidity: Infectious and chronic illness is reduced by breastfeeding, and more so by exclusive breastfeeding [17–21].
- Poor growth parameters: Exclusive breastfeeding helps overcome LBW and reduces stunting [22–27].
- Lower IQ scores [28] and slower visual development [29].
- Increased cardiac risk factors: Early breastfeeding, especially exclusive, is associated with reduced obesity and other factors related to heart disease [30–36].
- Inadequate nutrition: While mean intakes of human milk provide sufficient energy and protein to meet mean requirements during the first 6 months of infancy, alternative foods may not. However, some micronutrients are dependent on maternal stores [37].

Breastfeeding helps avoid many health and emotional problems for the mother as well; the mother who does not breastfeed has slower recovery post-delivery, increased maternal stress [38] and blood loss [39] postpartum, less vigorous uterine involution [40], possible diminished post-lactational bone status [41–43], early return to fertility, and increased risk of cancer of the breast [44] and ovaries [45]. Immediate postpartum breastfeeding seems to enhance the bonding between mother and child, decreasing desertion [70].

2. Why is breastfeeding considered a woman's right?

Breastfeeding is an area where one might perceive a potential for conflict between the woman's and the child's rights [46]. As confirmed by the Convention on the Rights of the Child, children have a right to the best start in life with the best chance for health [47], as well as for intelligence, proper growth, protection against immediate and chronic diseases, etc. But why is this also a woman's right? In countries throughout the world, women's autonomy frequently has been limited in the name of ensuring children's well-being, subordinating women's rights to children's rights. However, by framing the issue as a woman's right to choose and succeed with breastfeeding makes it a responsibility for the family, society and workplace to recognize and support this right. In addition, clear biological considerations indicate that, indeed, the right to breastfeed is a woman's right for her own health. Thus, women who breastfeed have improved postpartum recovery, less iron loss, delayed fertility return, lowered incidence of

breast, ovarian and uterine cancers, and apparently better bone status in older age. Two international conventions, the Convention on the Rights of the Child and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) [48] support this right for both the child and mother. Both Conventions place substantial obligations on the state to enable accommodation of childbearing and childrearing roles, among other roles.

3. Why is breastfeeding essential for achieving the Millennium Development Goals (MDGs) and in global partnership?

The Millennium Development Goals are discussed elsewhere in this volume (see Editorial by Shaw), however it is important to note that improved breastfeeding behaviors would contribute to the achievement of each of these goals. Of special note are the contributions of breastfeeding to certain of these goals, specifically, eradication of extreme poverty and hunger; reduction of child mortality; improvement of maternal health; and development of a global partnership for development. Breastfeeding significantly reduces early childhood feeding costs, and exclusive breastfeeding can half the cost of breastfeeding [49]. Exclusive breastfeeding and continued breastfeeding for two years is associated with reduction in underweight [50] and is an excellent source of high quality calories for energy. By reducing fertility, exclusive breastfeeding reduces reproductive stress. Breastfeeding provides breastmilk, serving as low-cost, high quality, locally produced food and sustainable food security for the child. In addition, by reducing infectious disease incidence and severity, breastfeeding could readily reduce child mortality by about 13%, and improved complementary feeding would reduce child mortality by about 6% [2]. In addition, about 50–60% of under-5 mortality is caused by malnutrition due to inadequate complementary foods and feeding following on poor breastfeeding practices [51] and, also, to low birth weight. The impact is increased in unhygienic settings. The micronutrient content of breastmilk, especially during exclusive breastfeeding, and from complementary feeding can provide essential micronutrients in adequate quantities, as well as necessary levels of protein and carbohydrates.

Maternal health is addressed as well. The activities called for in the Global Strategy for Infant and Young Child Feeding include increased attention to support for the mother's nutritional and social needs. In addition, breastfeeding is associat-

ed with decreased maternal postpartum blood loss, breast cancer, ovarian cancer, and endometrial cancer, as well as the probability of decreased bone loss post-menopause. Breastfeeding also contributes to the duration of birth intervals, reducing maternal risks of pregnancy too close together, including lessening risk of maternal nutritional depletion from repeated, closely-spaced pregnancies. Breastfeeding promotes return of the mother's body to pre-pregnancy status, including more rapid involution of the uterus and postpartum weight loss (obesity prevention).

Finally, the Global Strategy for Infant and Young Child Feeding fosters multi-sectoral collaboration, and can build upon the extant partnerships for support of development through breastfeeding and complementary feeding. There are many existing groups already working in partnership that could be called upon to collaborate further towards the best outcomes for children. In terms of future economic productivity, optimal infant feeding has major implications.

4. What has been done to enable women to succeed in their efforts to breastfeed optimally?

4.1. The Innocenti Declaration

In the 1970s and 1980s, increased attention to child survival heightened international political awareness of the importance of early nutrition. The Innocenti Declaration of 1 August 1990 offered four operational targets for global support for breastfeeding, calling upon all nations to:

- Appoint a national breastfeeding coordinator with appropriate authority, and establish a multisectoral national breastfeeding committee composed of representatives from relevant government departments, nongovernmental organizations, and health professional associations
- Ensure that every facility providing maternity services fully practices all the “Ten steps to successful breastfeeding” set out in the WHO/UNICEF statement on breastfeeding and maternity services
- Give effect to the principles and aim of the International Code of Marketing of Breast-milk Substitutes and subsequent relevant Health Assembly resolutions in their entirety
- Enact imaginative legislation protecting the breastfeeding rights of working women and establish means for its enforcement.

During the decade of the 1990s, as the number of scientific studies demonstrating the importance of breastfeeding for mothers and children increased (see above), two primary programmatic approaches were supported by the global community: the Baby-friendly Hospital Initiative and the International Code of Marketing of Breast-milk Substitutes.

The Baby-friendly Hospital Initiative was developed based on studies in the 1970s and 1980s that identified health care workers and hospital delivery as risk factors strongly associated with difficulties in breastfeeding and the later use of artificial feeding. However unwittingly, health services frequently contributed to lower breastfeeding rates either by failing to support and encourage mothers to breastfeed or by introducing routines and procedures that interfere with the normal initiation and establishment of breastfeeding. In order to increase knowledge, skills, and supportive behaviors among healthcare providers, the BFHI included changes in policy, staff training, and strengthening and linkage with community support for breastfeeding, based on the “Ten steps to successful breastfeeding” [52] as seen in Table 1. Step ten asks hospital staff to “foster the establishment” of community support groups for breastfeeding, underlining that responsibility to support breastfeeding extends beyond the walls of health facilities.

The International Code of Marketing of Breast-milk Substitutes was adopted by the World Health Assembly (WHA) in 1981, and has been reaffirmed and reinforced by subsequent WHA Resolutions. It was a natural party to Baby-friendly Hospital practices; pending its enactment as national law or binding regulations, all artificial feeding product companies were obligated, by the terms of the Code, to comply with its provisions regardless of whether it had yet been implemented by political processes. The only Code element that was specifically incorporated into the BFHI Global Criteria was the prohibition of free and low-cost supplies of breastmilk substitutes, bottles and teats accepted by or distributed through the health care system.

In brief, the main provisions of the International Code of Marketing of Breastmilk Substitutes include that there should be [53]:

- no advertising of breastmilk substitutes, feeding bottles and teats to the public;
- no free samples to mothers;
- no promotion in healthcare facilities, including no free or low-cost supplies;
- no company personnel to contact mothers;

Table 1 Ten steps to successful breastfeeding [69]

1	Have a written breastfeeding policy that is routinely communicated to all health care staff.
2	Train all health care staff in skills necessary to implement this policy.
3	Inform all pregnant women about the benefits and management of breastfeeding.
4	Help mothers initiate breastfeeding within one half-hour of birth.
5	Show mothers how to breastfeed and maintain lactation, even if they should be separated from their infants.
6	Give newborn infants no food or drink other than breast milk, unless medically indicated.
7	Practice rooming in – that is, allow mothers and infants to remain together 24h a day.
8	Encourage breastfeeding on demand.
9	Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10	Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

- no gifts or personal samples to health workers; health workers should never pass samples on to mothers;
- no pictures of infants, or other words or pictures idealizing artificial feeding, on the labels or on brochures about the products;
- information to health workers should be scientific and factual;
- information on artificial feeding, including that on labels, should explain the benefits and superiority of breastfeeding and the costs and dangers associated with artificial feeding;
- unsuitable products, such as sweetened condensed milk, should not be promoted for babies

The text of the Code itself commits manufacturers and distributors of products under its scope to ensure that their conduct in all aspects of their work complies with all provisions of the Code.

Maternity Protection in the workplace is supported by the International Labour Organization (ILO), which sets international standards for the workload adjustments needed by women in the formal workplace [53]. There are three Maternity Protection Conventions (No. 3, 1919; No. 103, 1952; No. 183, 2000) and two recommendations (No.95, 1952; No.191, 2000). There is also some consideration of the woman employed in atypical forms of work. Fifty-nine nations have ratified at least one of the three conventions. Most countries have, however, developed national legislation that ensures that women workers are granted a paid leave before and/or after birth [53]. Table 2 [54] illustrates the durations of leave granted by countries in various regions.

Many countries answered the call of the Innocenti Declaration: today, there have been nearly 20,000 facilities designated “Baby-friendly” in more than 150 countries, more than 60 countries have laws supportive of the International Code and at least 20 more have laws that are in draft or have voluntary status; the majority of countries have had standing oversight committees, and many have maternity protection laws.

4.2. Maternal nutrition and reproductive health

A mother’s nutritional status at her own birth and her nutritional status prior to her pregnancy are both associated with the birth weight of her children. The mother’s nutrient stores pre-pregnancy can also influence the micronutrient composition of breastmilk. During pregnancy and lactation, mothers should have about 500 additional calories every day, so in areas where resources are scarce, mothers may need longer birth intervals to allow the time to rebuild their nutritional stores prior to another pregnancy. The current recommendation is at least 2 years spacing between births, however, recent studies may indicate the need to update this recommendation to be closer to three years birthspacing for optimal outcomes for both mother and child [55,56]. However, spacing births alone is not sufficient for maternal nutrition and reproductive health. Proper nutrition throughout the life cycle for the girl child, and delay in age of the first pregnancy to at least 18 years of age, are also associated with improved birth outcomes.

Table 2 Status of maternity protection by region; maternity leave (in weeks) [54]

	<12	12	13	14	15	16	17	<26
Africa (39 countries)	5	15		18	1			
Western Pacific (13 countries)	7	5		1				
South-East Asia (7 countries)	1	6						
Americas (31 countries)	3	18	3	1		2	1	3
Europe (28 countries)	2	4	1	3	1	9		8
Eastern Mediterranean (20 countries)	12	5		2		1		

4.3. The impact of the HIV/AIDS pandemic

The HIV/AIDS pandemic has had repercussions on many health issues, including infant feeding. WHO/UNICEF has recommendations for counseling mothers to help them reduce mother-to-child transmission (MTCT) via breastfeeding. If the mother knows she is HIV-positive, and if replacement feeding is acceptable, feasible, affordable, sustainable and safe, then replacement feeding is the preferred option. However, where replacement feeding is not acceptable or not feasible or not affordable or not sustainable or not safe, or where women are HIV-negative or do not know their status, the best approach remains early and exclusive breastfeeding [57]. Recent studies indicate that the result of exclusive breastfeeding, as opposed to mixed feeding, is both improved child survival in general, as well as reduced mother-to-child transmission [58]. In countries with good sanitation, functioning household refrigerators, stoves, lighting systems, and mothers who are literate, most women would consider replacement feeding to be acceptable, feasible, affordable, sustainable and reasonably safe, however, arguably, the decision should be made by each mother, based on counseling and informed choice.

4.4. Changing national policy and social norms

Both the United States [59] and the European Union [60] have developed blueprints, designed for countries, communities, and health care workers, that provide the background research, outline the public policy needs, and encourage community and health system actions. In addition, in many countries, legal protection for the mother to breastfeed, wherever and whenever the infant is hungry, has increased. Television and other media are far-reaching, albeit with sometimes conflicting messages concerning infant feeding: on one hand, breastfeeding is more frequently being mentioned on the air; on the other hand, advertising by the formula industry remains convincing to many.

5. What has been the result?

As a result of these numerous changes and efforts, exclusive breastfeeding increased about 15% worldwide during the 1990s. The good news is that, in some countries, the rate doubled or tripled or more. It is also of interest that the most rapid rate of increase occurred in urban

areas [61]. Fig. 1 shows the increase in exclusive breastfeeding among infants less than 4 months in developing countries during the decade of the 1990s [61]. It is estimated that a similar rate of increase occurred worldwide. From this, it is possible to project the impact of the increases in exclusive breastfeeding:

- **The increase in exclusive breastfeeding alone implies close to 1 million fewer infant deaths over the decade.** This figure is based on the assumption, justified below, that exclusive breastfeeding will result in an infant mortality rate (IMR) of about 40% of the level of other infants. The following assumptions were used for this calculation: the increase in the numbers exclusively breastfed was linear; the increases in exclusive breastfeeding were matched by increases in some (i.e., partial) breastfeeding; there was a steady rate of 100 million births annually; non-breastfed infants have about 6 times the mortality of exclusively breastfed infants in the first month or two; about 40–50% of the IMR occurs in the first month of life; and non-breastfed infants have about 2 times the mortality of breastfed infants in the remaining months of the first year of life. Using these assumptions, it is a conservative estimate that about 27.5 million additional children were exclusively breastfed over the decade, with the concomitant reduction in mortality.
- **The decreased outlay in developing countries for imported and manufactured artificial foods is estimated at the level of a billion dollars or more worldwide.** This estimate is conservative, assuming only a 3 month decrease in the need for infant formula, and is derived from Food and Agriculture Organization (FAO) [62] and World

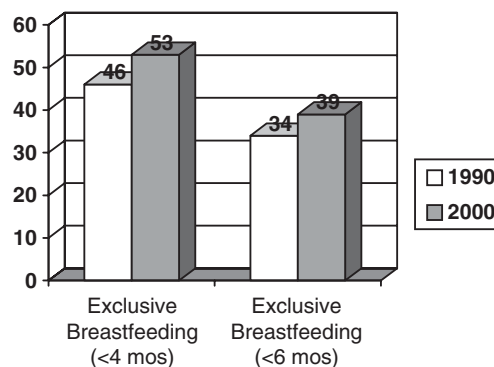


Figure 1 Trends in exclusive breastfeeding: percent mothers of children <4 months, and <6 months of age who are exclusively breastfeeding at the time of the survey [61]. Based on data from 38 countries covering 66% of the developing world population.

Health Organization [63] figures, developed by multiplying the cost of formula for 3 months times the number of children changed to exclusive breastfeeding.

- **A significant impact of breastfeeding on fertility reduction, resulting in the numbers of births being reduced by millions worldwide [64].**

Despite these advances, much remains to be accomplished, especially in those countries with the highest rates of child mortality. As perhaps the most important preventive child survival intervention, early and exclusive breastfeeding with appropriate complementary feeding costs relatively little. Recent international analyses confirm that interventions to enable woman to succeed in optimal feeding are among the most cost-effective and cost beneficial [65]. Nonetheless, this message has not been fully heard or accepted by decision-makers in the countries that need it most. Although there are vulnerable populations in every country, the countries with the highest infant mortality rates share an especially heavy disease burden as well. However, with a coordinated multi-sectoral effort to support families, improve health systems, and enhance social norms through legal and regulatory efforts as well as social marketing, a revolutionary shift in child survival and well being could occur.

In 2002, with the development of the WHO/UNICEF Global Strategy for Infant and Young Child Feeding, the global community added 5 additional operational goals to those of the Innocenti Declaration:

- Develop, implement, monitor and evaluate a comprehensive policy on infant and young child feeding, in the context of national policies and programs for nutrition, child and reproductive health, and poverty reduction;
- Ensure that the health and other relevant sectors protect, promote and support exclusive breastfeeding for six months and continued breastfeeding up to two years of age or beyond, while providing women access to the support they require – in the family, community and workplace – to achieve this goal;
- Promote timely, adequate, safe and appropriate complementary feeding with continued breastfeeding;
- Provide guidance on feeding infants and young children in exceptionally difficult circumstances, and on the related support required by mothers, families and other caregivers;
- Consider what new legislation or other suitable measures may be required, as part of a comprehensive policy on infant and young child feeding,

to effect the principles and aims of the International Code of Marketing of Breast-milk Substitutes and to subsequent relevant Health Assembly resolutions.

In order to ensure continued progress on breastfeeding, active programming and resource allocation must increase. In every country that has seen significant improvements in breastfeeding, an active decision was made that saving children's lives is worth the time and energy to truly support women in making an informed and unbiased choice in feeding their children, and then to provide them with the support they need to succeed. In some settings, the government led the way; in others the medical professions acted first, while in still others, a gradual social revolution of behavior change took place. In all instances, however, comprehensive ongoing support is needed to achieve sustainable results. The institutionalization of protection, promotion and support into law, health systems and health professional training, as well as allocations for ongoing research and program evaluation, will presage real changes that will, in turn, allow the children of the world to achieve their full potential through optimal infant and young child feeding and care.

Today, the biggest threat to optimal infant feeding may be complacency or message fatigue [66]. The job is only partly completed: marketing practices continue that mislead and distract, health care workers have limited skills, and the issue remains misunderstood by many HIV/AIDS program planners and counselors. Further, the failure to recognize maternity rights in the private sector and in non-formal work remains a largely unaddressed issue.

The necessary activities are clear: coordinated, comprehensive strengthening of national oversight, and health system reform – including health worker training, inclusion of feeding in health information systems, and Baby-friendly activities – as well as community and societal support for the breastfeeding mother.

Support for optimal infant and young child feeding has been part of UN agency efforts for many years, and now is endorsed or supported by the following: the Global Millennium Development Goals, World Fit for Children (Article 37), UNICEF Medium Term Strategic Plans, the Convention on the Rights of the Child, the 2002 WHO/UNICEF Global Strategy for Infant and Young Child Feeding, the new Partnership for Maternal, Newborn and Child Survival, and the "HIV and Infant Feeding: Framework for Priority Action." In addition, all rights-based, life-cycle sensitive approaches, as

well as those emphasizing the most vulnerable populations and the lifetime impact of the interventions planned must support optimal infant and young child feeding, and associated nutrition for mothers, to succeed.

The following indicators have been proposed as targets for the year 2015, the target date for Millennium Development Goals [67]:

- At least 60% of children <6 months of age exclusively breastfed (to be increased from about 30% in the early 1990s)
- At least 75% of children 20–23 months of age still breastfed (to be increased from about 40% in the early 1990s)
- Skin-to-skin and early breastfeeding initiation increased to about 60% (to be increased from <30% in the early 1990s).

Fig. 2 illustrates the country levels of exclusive breastfeeding for which data are available from UNICEF. Clearly, to achieve the stated goals by 2015, much action is needed.

6. What must be done now?

6.1. The role of international agencies and governments

Proposed strategies and activities include a collaborative network of support for accelerated program implementation in the four areas of the

rights-based and lifecycle-relevant approach of the Global Strategy for Infant and Young Child Feeding:

- Advocacy, coordination and establishment of multisectoral, comprehensive policy and oversight of national efforts, to be initiated by alliances of member states and international organizations;
- Policy and legislation, including implementing the International Code of Marketing of Breastmilk Substitutes, Maternity Protection, and maintenance of oversight, to be initiated by national governments;
- Health system strengthening, including revitalizing and updating of Baby-friendly work, updating health worker core curricula, and establishing infant feeding data collection systems; and,
- Community and social mobilization, including mother-to-mother, peer counseling, baby-friendly communities, grandmother leagues, as well as community support and social marketing of various complementary feeding approaches.

These activities can be enacted through global support, national government commitment, and civil society advocacy and action.

The Global Strategy for Infant and Young Child Feeding provides us with the roadmap. It is responsive to the new environment by a) updating the goal for exclusive breastfeeding from four months to six months based on new evidence, b) expanding the operational targets from the original four of the Innocenti Declaration, to nine, broadening the scope to include all aspects of

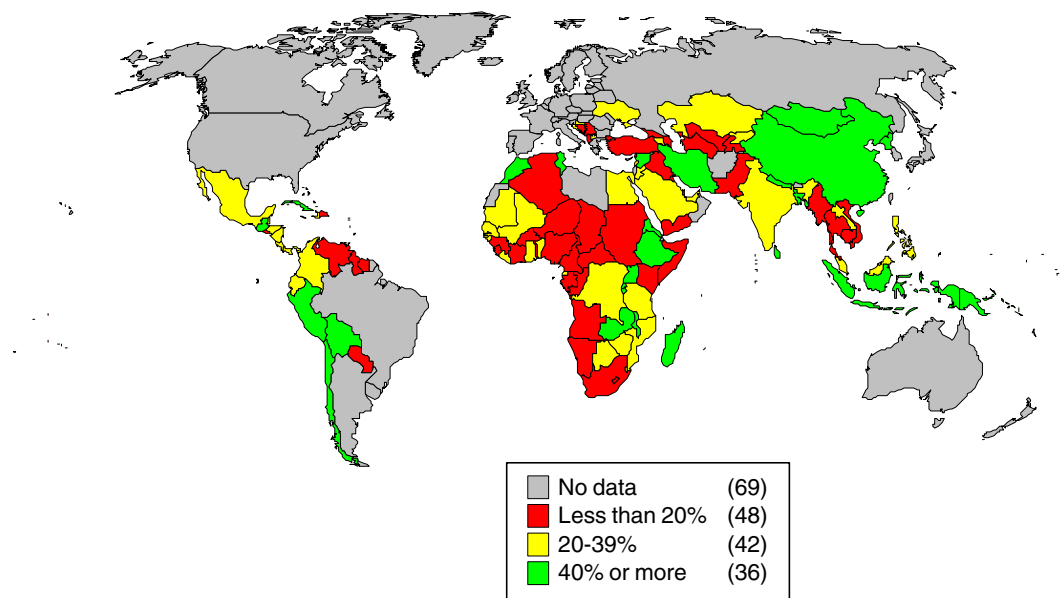


Figure 2 Levels of exclusive breastfeeding (<6 months) (Data Source: State of the World's Children, UNICEF, 2005, prepared by UNICEF).

feeding a child 0–3 years of age, with increased attention to the needs of mothers, and taking into account the conditions created by the HIV pandemic.

6.2. The role of obstetricians

The role of the health professional is spelled out in these international agreements. The Global Strategy for Infant and Young Child Feeding notes that medical faculties, schools of public health, institutions for training health workers and professional associations have the following responsibilities [68]:

- Ensure that basic education and training for all health workers cover lactation physiology, exclusive and continued breastfeeding, complementary feeding, feeding in difficult circumstances, meeting the nutritional needs of the infants who have to be fed on breastmilk substitutes and the International Code of Marketing of Breast-milk Substitutes and related legislation;
- Train all health workers how to provide skilled support for optimal infant and young child feeding in neonatal, pediatric, reproductive health, nutrition and community health services;
- Promote achievement and maintenance of “Baby-friendly” hospital status;
- Observe their responsibilities under the Code of Marketing as a minimum, and national measures that strengthen these responsibilities;
- Encourage the establishment and recognition of community support groups and refer mothers to them.

The role of the obstetrician vis-à-vis the newborn varies between countries and between facilities. In some, the obstetrician must attend both the mother and newborn, while in others, a pediatrician is called in. In either case, antenatal care, delivery, and follow-up visits to the obstetrician are essential in the success or failure of breastfeeding.

6.2.1. Antenatal care

Minimally, the antenatal care visits should include discussion of infant feeding, and counseling of the mother concerning the risks of not breastfeeding in her individual context. Outlines exist for the content of each visit.

6.2.2. Delivery

Immediate post-delivery skin-to-skin contact, and supported, but not forced, baby-led latch on to the

breast, are each associated with improved breast-feeding initiation and continuation of exclusive breastfeeding. Other interventions, such as weighing, Vitamin K injection and instillation of eye drops, may readily be delayed until the baby’s temperature normalizes and breastfeeding is achieved. Generally this will be within an hour and a half of birth.

In some countries, the obstetrician is the only physician who will see the infant in the first days of life. In these settings, the need for physician skills building in lactation support is especially compelling.

6.2.3. Postpartum visits

Whether the local protocol calls for a visit within days, or not for 6 weeks, the obstetrician can have a profound impact on breastfeeding success. Enabling a mother to succeed in breastfeeding is everyone’s business, but the obstetrician has a special role. Ongoing enthusiasm for a mother’s choice to breastfeed is important, and observation of a breastfeed can reveal early issues that can be immediately addressed to avoid later problems. Some women will hesitate to bring breast issues to the attention of a pediatrician. Therefore, every obstetrician should ensure that he or she has the requisite skills to support normal breastfeeding and to properly treat any problems that may arise, as part of the mother/child health care team.

Knowledge and skill acquisition require both didactic training and clinical practice. Each of us has the responsibility to ensure that our skills are up to date. As part of the international community, either as a member of a professional society, or a solo practitioner, it is our responsibility to know what to do, and to do it now, with urgency.

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