How Can Global Rates of Exclusive Breastfeeding for the First 6 Months Be Enhanced?

Arun Gupta, MD, FIAP, J. P. Dadhich, MD, and Shoba Suri, PhD

Abstract: *Optimal infant and young child feeding practices, especially exclusive breastfeeding for the first 6 months, not only save lives of children younger than 5 years but also improve children's quality of life. In spite of the proven benefits of exclusive breastfeeding for up to 6 months, and repeated emphasis on this critical intervention, the rate of exclusive breastfeeding among children younger than 6 months is a dismal 37% globally, and it has been stagnant since the 1990s. Globally, there is much interest in enhancing this practice to accelerate the progress on child survival, as the UN Secretary General's Global Strategy for Women's and Children's Health calls for increasing numbers to 21.9 million infants who are exclusively breastfed for the first 6 months of life, by 2015, in 49 least developed countries. This is a welcome step forward, but knowledge of how to increase exclusive breastfeeding for the first 6 months is either lacking or is inadequate among policy and program managers. This article identifies 7 strategies that could achieve increased rates of exclusive breastfeeding, provides guidance on prioritization, and explains why these require multisectoral and systematic action.*

Keywords: initiation of breastfeeding; exclusive breastfeeding; complementary feeding; infant mortality; optimal feeding; child survival; under-5 mortality

Introduction

The World Health Organization (WHO) recommends optimal infant and young child feeding (IYCF) practices for normal growth and development of infants and young children. These practices include initiation of breastfeeding within 1 hour of birth; exclusive breastfeeding for the first 6 months of life; and addition of timely, appropriate, and adequate family foods for complementary feeding after 6 months along with continued breastfeeding.[1]

Millennium Development Goal 4 aims to reduce under-5 child mortality by two thirds by 2015. To accelerate the progress on child survival, there is a heightened global interest in increasing the rates of optimal IYCF practices, especially that of exclusive breastfeeding for the first 6 months. The UN Secretary General's Global Strategy for Women's and Children's Health has set a specific target for increasing to 21.9 million infants who are exclusively breastfed for the first 6 months of life, by 2015, in 49 least developed countries.[2] The WHO's Implementation plan on Maternal, Infant and Young Child Nutrition presented at the World Health Assembly 2012[3] has

"The global rates of exclusive breastfeeding have remained stagnant since 1990, with only 37% of children younger than 6 months being exclusively breastfed."

DOI: 10.1177/1941406413480389. From Breastfeeding Promotion Network of India (BPNI), Delhi, India. Address correspondence to Arun Gupta, MD, FIAP, Regional Coordinator, IBFAN Asia, Breastfeeding Promotion Network of India (BPNI), BP-33 Pitampura, Delhi 110088, India; e-mail: arun.ibfan@gmail.com.

For reprints and permissions queries, please visit SAGE's Web site at http://www.sagepub.com/journalsPermissions.nav.

Copyright © 2013 The Author(s)

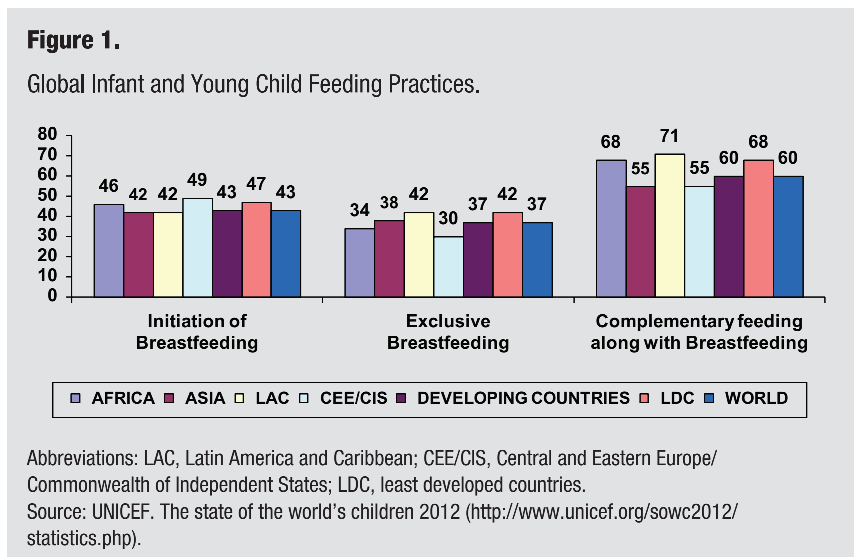
also set a global target to increase exclusive breastfeeding rates in the first 6 months of life by at least 50%. This target implies that the current global average, estimated to be 37% for the period 2006-2010, should increase to 50% by 2025.

Although the importance of optimal infant feeding practices in contributing to normal child health, survival, and development is well documented, out of about 136 million babies born each year, around 90 million are not exclusively breastfed for the first 6 months.[4] Questions such as "Why mothers are not able to breastfeed exclusively or provide good timely complementary foods to their babies," "How to enhance the rates of breastfeeding," and "How can we adopt a comprehensive approach to fight the forces that promote inferior alternatives to breastfeeding or family foods" need clear answers.

This article makes an attempt to answer these questions along with 7 strategic actions that are likely to achieve higher rates of optimal feeding practices.

Figure 1.

Global Infant and Young Child Feeding Practices.



Abbreviations: LAC, Latin America and Caribbean; CEE/CIS, Central and Eastern Europe/Commonwealth of Independent States; LDC, least developed countries.
Source: UNICEF. The state of the world's children 2012 (http://www.unicef.org/sowc2012/statistics.php).

The Evidence in Support of the Proposed Action

The WHO has identified "poor infant feeding" as a risk factor for survival of the child.[5] Articles in *The Lancet* on child survival (2003),[6] neonatal survival (2005),[7] and maternal and child undernutrition (2008),[8] have analyzed almost all existing evidence and published the importance of exclusive breastfeeding for the first 6 months and appropriate complementary feeding after 6 months for enhancing optimal infant feeding practices. The WHO estimates that 53% of acute pneumonia and 55% of diarrheal deaths are attributable to poor feeding practices during the first 6 months of life.[9] Initiation of breastfeeding within an hour of birth has been shown to reduce infection-specific neonatal mortality, and this impact was found to be independent of the effect of exclusive breastfeeding during the first month of life.[10,11] According to estimates in *The Lancet*, suboptimal breastfeeding is responsible for 1.4 million child deaths and 44 million disability-adjusted life years. Nonexclusive breastfeeding during 0 to 6 months accounts for 77% deaths and 85% disability-adjusted life years.[12] The role of optimal breastfeeding in preventing noncommunicable diseases such as obesity, diabetes, and hypertension, and also its positive relation with brain development, has been well documented.[13] After 6 months of age, timely and appropriate complementary feeding along with continued breastfeeding is critical to infants' physical growth and cognitive development.[8]

The State of Infant and Young Child Feeding Globally

To attempt increasing the current rates of IYCF practices, it is important to document the current state of practices as well as the policy and programs that support them.

Infant and Young Child Feeding Practices

The global rates of exclusive breastfeeding have remained stagnant since 1990, with only 37% of children younger than 6 months being exclusively breastfed. Globally, there is little sign of improvement with early initiation at 43% and continued breastfeeding from 20 to 23 months at just 55%.[14] The global IYCF practices are depicted in Figure 1.

In 68 key countdown* countries, which account for 90% of the total burden of maternal and child mortality, the rate of early initiation of breastfeeding is 48% and the proportion of exclusive breastfeeding is 34%.[15]

State of Policy and Programs

Information about policy and programs that support optimal IYCF practices, has been documented recently from 40 countries.[16] International Baby Food Action Network (IBFAN) Asia adapted the WHO's tool for assessment of policy and program to monitor the implementation of the Global Strategy for Infant and Young Child Feeding at the national level[1] to launch the World Breastfeeding Trends Initiative (WBT*i*).[17] The WBT*i* is a Web-based universally accessible tool that calls for action at country level to bridge the gaps found. It provides objective scoring and color rating to the findings of the assessments in an easily understandable format. In line with the Global Strategy for Infant and Young

*The countries involved in the countdown to 2015, which aims to provide the best and most recent scientific evidence on country-level progress toward the achievement of Millennium Development Goals 4 and 5.

Table 1.

World Breastfeeding Trends Initiative Indicators of Infant and Young Child Feeding Policy and Programs

1. National policy, program, and coordination
2. Baby-Friendly Hospital Initiative (10 steps to successful breastfeeding)
3. Implementation of the international code
4. Maternity protection
5. Health and nutrition care systems
6. Mother support and community outreach
7. Information support
8. Infant feeding and HIV
9. Infant feeding during emergencies
10. Monitoring and evaluation

Table 2.

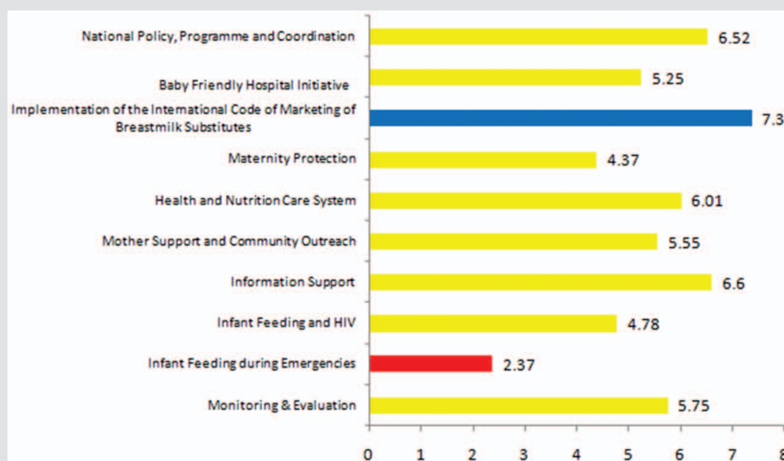
Guidelines for Color Rating of Infant and Young Child Feeding Policy and Program Indicators

Scores	Color Rating
0-30	Red
31-60	Yellow
61-90	Blue
91-100	Green

Child Feeding, the WBT*i* tool assesses 10 areas of action on IYCF as given in Table 1. The tool provides color ratings from red, blue, yellow, and green in ascending order of their performance as per the guidelines (Table 2). IBFAN

Figure 2.

Average Scores of 10 Indicators on Policy and Programs.



Asia has developed training and capacity building resources and has introduced the tool in 82 countries since 2009.

Figure 2 shows the average score of 10 indicators on policy and programs from the 40 countries whose assessment findings have been published.[16] Each area of action has received the score out of a maximum of 10. The figure shows considerable gaps in almost all indicators. The situation is the worst for infant feeding, with HIV and infant feeding during emergencies coming up with the lowest scores. This shows the level of preparedness of the health and other systems to deal with infant feeding during these special situations. The indicators of national policy, program, and coordination point to major gaps regarding establishing policy and coordination for enhancing breastfeeding. In case of maternity protection, the findings indicate profound lack of support to women in each of the assessed countries.

Major Reasons for Poor Infant and Young Child Feeding Practices

Several global initiatives have been taken in the last 5 decades. Key among them are the International Labour Organization Maternity Protection Convention 1952,[18] the International Code of Marketing of Breastmilk Substitutes,[19] the 1981 World Health Assembly resolution, and the Global Strategy for Infant and Young Child Feeding.[1] The level of implementation at country level has been varied. Many countries have made additional efforts for the "promotion" of breastfeeding. However, infant feeding practices remain far from optimal worldwide. Several factors given below contribute to this situation.

Gaps in Policy, Programs, and Coordination

According to documented evidence from 40 countries,[16] gaps have been found in almost all policy and program indicators in all the 40 countries. The Global Strategy for Infant and Young Child Feeding provides a framework for action on these 10 areas, and continued gaps will not allow the practices to improve.

Aggressive Promotion of Infant Formula and Baby Foods

In the 1970s, Senator Edward Kennedy took note of the aggressive promotion of commercial baby food manufacturers,[20] and during the senate hearings, he found that there was a need for an international solution to the international problem. He proposed a "marketing code for breast milk substitutes" and recommended this

action to the WHO. This led to a global consultation in which the UNICEF, WHO, industry, and consumer groups took part. The meeting recognized that promotion of breast milk substitutes contributes to a negative impact on breastfeeding, calling it a "dangerous trend leading to increased childhood morbidity and mortality."[19] This resulted in the development of the code, as a minimum standard, which was adopted by World Health Assembly in 1981. History suggests that industry has misused health systems and has even contributed to the practice of separating mothers and babies soon after birth in facilities to meet its objective of increasing use of infant formula.[21] Earlier campaigns by the industry targeted women with suggestions that they do not have enough breast milk, which led to a widespread "mistaken belief" among women and disturbed the hormonal control over breastfeeding. This belief pushes women to adopt the alternatives. In many countries, direct promotion to people continues, and in others, industry works through health systems. Industry uses the Internet for promotion, makes health and nutrition claims over its baby foods, and introduces new products as its strategies. Baby food industry is also engaging itself as a legitimate partner in health and nutrition actions.[22]

Social and Cultural Influences

Initiation and continuation of breastfeeding is influenced by a complex interplay of culture, social support, and socioeconomic status.[23] Cultural beliefs and local traditions are important in determining health behavior in general. The erosion in the value of breastfeeding, lack of accurate and unbiased information on optimum infant feeding practices, and inadequate support to breastfeeding mothers are some of the factors responsible for poor rates of infant feeding practices. In certain communities, waiting for mother's milk to "come in" and administering prelacteal foods such as honey is still a common practice.[24] Studies on feeding practices from different countries have shown a large variety of beliefs and traditions related to breastfeeding.[25-30] Cultural practice on avoidance of many nutritious foods and having a restrictive diet could also affect the overall health and well-being of both the mother and the infant. The practice of introducing early complementary foods is another major concern in terms of infant health.[31] Complementary feeding is poorly understood in some communities leading to poor complementary feeding practices, both in terms of quality and quantity as well as early or delayed introduction. An increase in number of women joining work outside home without appropriate support mechanisms for breastfeeding is yet another major cause.[32]

Lack of Skilled Support From Health Workers

Health professionals have traditionally encouraged women to breastfeed their babies, by giving information about its benefits, calling it "promotion."[33] However, there are many other critical factors that affect breastfeeding practices, such as hormonal control of breastfeeding, mothers' state of mind, perceptions of not having enough breast milk, dominant societal and media representations of breastfeeding, and being able to breastfeed in public. All these difficult situations require special skills and support, which currently is lacking.

Many maternal and child health workers invariably lack necessary knowledge and skills to help and support women initiate breastfeeding as well as support maintenance of exclusive breastfeeding.[33] They also may believe that they know enough, creating a barrier in promoting breastfeeding. Health care providers can have a significant impact on the intention to breastfeed, initiation, and consequent duration of breastfeeding.[34] Studies have shown that women who receive encouragement to breastfeed from health care providers are more likely to initiate and maintain breastfeeding than women who did not receive encouragement.[35,36] Studies have also shown the influence of industry on health workers [37,38] in undermining breastfeeding.

Evidence suggests that breastfeeding rates may be increased, through "one-to-one" and "group" counseling. PROMISE study shows that peer counseling is achievable and can be used effectively to increase exclusive breastfeeding prevalence.[39] In 2008, a review of the *Lancet* series on nutrition pointed out that there is sound evidence available for 3 interventions; breastfeeding counseling was one of them.[8]

Strategies to Increase Rates of Optimal Infant and Young Child Feeding Practices

The WHO and UNICEF in 1989 made a joint call[40] for protecting, promoting, and supporting breastfeeding, highlighting the 3 major strategies for increasing the rates of breastfeeding. This means putting policies in place to protect infant feeding from commercial sector (protecting); providing accurate and unbiased information on infant feeding(promoting); and ensuring support to women at birth, at home, in the community, and at the workplace(supporting). These were later endorsed in the Innocenti Declarations of 1995 and 2005, as well as several World Health Assembly resolutions. In addition, to make these 3 work effectively, 4 overarching strategies are required, which are coordination, research, training, and data management. Although all these have to be implemented together and comprehensively, countries may prioritize depending on available resources. The following sections describe in detail these 7 strategies. Each section also provides a set of actions to be taken at the country level.

Protection

Following the adoption of the code by the World Health Assembly in 1981 and many subsequent resolutions related to this, all countries were to enact a legislative framework with the code as the minimum standard. This was to protect women and children from aggressive promotion and use of commercial baby foods, recognizing the harmful effects on infant health. According to the International Code Documentation Centre, which monitors compliance with the code, only 33 countries have enacted legislations in line

with the code, 42 countries are somewhat weaker, there are others that are still on drafts, and many are working on voluntary guidelines.[41] Blatant violations of the code and national legislations continue all over the world year after year. According to the industry analysis, there is a huge market already created for the consumption of "infant formula" as an alternative to breastfeeding. Baby food industry's pervasive promotion techniques have resulted in undermining women's confidence in breastfeeding.[37,38] Key action required of all nations is to enact/strengthen legislation and effectively implement it, based on the code, and including subsequent relevant World Health Assembly resolutions. This is critical as the 2010 World Health Assembly resolution 63.23 calls for "ending all inappropriate promotion of foods for infants and young children and use of health and nutrition claims."[42] It is imperative that all health workers be aware of their responsibility toward the code/and or national legislation and to bring about effective enforcement and implementation.

Promotion

This strategy calls for reaching people with accurate and unbiased information, enabling access to skilled "one-to-one" counseling and support for all women to promote breastfeeding and complementary feeding. To fully grasp the importance of this strategy, it is critical to understand the role of 2 hormones, prolactin and oxytocin, in successful breastfeeding and lactation management. Prolactin helps produce mothers' milk in response to suckling by the baby, and oxytocin helps the milk flow from the breast to the baby's mouth.[43] Oxytocin is adversely affected by stress, fear, anxiety, and lack of confidence in the lactating woman. Health care providers can address fear and anxiety among mothers about "not having enough milk" through skilled counseling. This is like use of "confidence building measures," an approach very different from that of just delivering a message. There is evidence to demonstrate the effectiveness of skilled counseling. The WHO Multicentre Growth Reference Study in 8 countries has successfully demonstrated the effectiveness of skilled counseling and support to mothers in enhancing breastfeeding and complementary feeding practices.[44] A 2011 meta-analysis of 53 studies has demonstrated that prenatal and postnatal counseling increased exclusive breastfeeding manifold, and skilled one-to-one counseling (as opposed to group counseling) enhanced rates of exclusive breastfeeding for 6 months.[45] Positive effects of skill training and counseling at the family level have been demonstrated by field experience from Uttar Pradesh in India.[46] Nutrition related education and counseling for mothers coupled with complementary food has significantly affected growth in children.[47] There would be a need to provide food to "food insecure" populations to ensure good, timely, and appropriate complementary feeding after 6 months, along with continued breastfeeding.[8]

Key action for every country is to provide universal access to skilled counseling on IYCF, especially exclusive breastfeeding for the first 6 months through setting up of counseling centers in health facilities and communities. These counseling centers should be managed by skilled and trained IYCF counselors in both public and private sectors. These should also be linked to growth monitoring of every individual child.

Support

A strong support strategy is needed to facilitate all mothers and their babies to be together at all times for at least the first 6 months after birth, for increasing exclusive breastfeeding rates. All countries should create systems for support to women in both formal and informal sector by ensuring 6 months maternity leave by legislation. Policy for crèches at work place, flexible working hours, breastfeeding breaks during work, appropriate private physical space to express breastmilk, and availability of all these facilities at scale are essential for increasing the rates of infant feeding practices. Where women have economic pressures to go to work, this could be done through some kind of wage compensation, which can be critical in enabling poor women to provide exclusive breastfeeding to their babies. A rough estimate of this was made based on a maternity benefit scheme in India, wherein a cash benefit of $20 per month per pregnant woman for 6 months can be considered as a fair minimum. However, the level of assistance could vary according to the cost of living in each country.[48]

Coordination

Many countries have developed a plan with clear objectives and dedicated resources for IYCF, even as the global call to create a "national coordination" was made as early as 1995.[49] To take strategic actions for protecting, promoting, and supporting breastfeeding, it would be logical to have an institutional mechanism for strategic planning, operational and technical support, coordination among various sectors that deal with IYCF, and also for the review of activities taking place. Key action is to set up appropriate bodies responsible for such functions at the national level as well as at the regional level, with sufficient technical, operational, and strategic capacity. Also allocation of adequate financial resources to carry out this work and regular monitoring of the program are essential for smooth coordination.

Research

Another action required is to set up a research task force to engage in qualitative and quantitative research to generate information around breastfeeding and complementary feeding in various settings. Research should continually inform both policy and program managers. Policy and programs should be regularly assessed, analyzed, and gaps identified every 3 to 5 years, and should devise action plans to bridge them.

Data Management

A management information system and team for collating and analyzing appropriate information on breastfeeding and complementary feeding from national and local surveys is important. The key action is to create such a system as to generate regular reports and to inform

key policy and program managers as well as to the public.

Education and Training

This strategy is a fundamental input to make an impact on the whole health system and at the conceptual level. Education curriculum at secondary and higher education levels must dedicate space for infant health, development, and how feeding affects it. There is a need to provide in-service training to all health care providers to support IYCF. WHO has provided different training programs for breastfeeding, complementary feeding, and infant feeding and HIV. The Breastfeeding Promotion Network of India/IBFAN Asia has made attempts to combine these into one comprehensive training module: the “Infant and Young Child Feeding Counseling”—a 4-in-1 training course. (*An integrated course on breastfeeding, complementary feeding, HIV and infant feeding, and growth monitoring* is now available as an updated version). The WHO has also provided a training program for lay counselors.[50] The key action for each country is to put in place a system where both in-service training is carried out and is incorporated into the curriculum.

Discussion

Globally, exclusive breastfeeding rates have increased from 14% in 1985 to 38% in 1995, but it decreased subsequently in most regions. However, rapid and subsequent increases in exclusive breastfeeding rates, often exceeding the proposed global target, have been achieved in individual countries in all regions, such as Cambodia (from 12% to 60% between 2000 and 2005), Mali (from 8% to 38% between 1996 and 2006), and Peru (from 33% to 64% between 1992 and 2007). Studies have shown that health, policy, and program interventions can enhance exclusive breastfeeding for the first 6 months, as women who receive education on breastfeeding during pregnancy are more likely to exclusively breastfeed.[51,52] The attitudes and opinions of family members, friends, and health professionals are likely to affect the uptake and continuation of breastfeeding.[53,54] A study on assessing infant breastfeeding beliefs among low-income Mexican Americans has identified time, embarrassment, and pain as barriers to breastfeeding; discussed decision-making efforts regarding breastfeeding; identified cultural beliefs related to breastfeeding; and discussed the lack of care-provider support for breastfeeding.[55] Evidence from countries indicate marked improvements in exclusive breastfeeding often being associated with effective regulatory frameworks and guidelines, with comprehensive programmatic approach at scale.[4] A 6-country review on breastfeeding progress from Bangladesh, Benin, Philippines, Sri Lanka, Uganda, and Uzbekistan have identified various factors, like international leadership, enabling environment, results orientation and coverage, coordination, community outreach, use of multiple channels of communication, and timing and frequency of caregiver contacts with health workers, that can affect programme results.[56] A recent study has reported significant association between implementation of the global strategy and national improvements in exclusive breastfeeding and breastfeeding. Efforts to implement the global strategy have been found to have measurable impact.[57]

Conclusion and Moving Forward

There is heightened interest on increasing the optimal IYCF practice across the board, and so is the availability of sufficient evidence to take on this action as well as how to do it. According to the *Lancet* analysis around admissible evidence, breastfeeding counseling, vitamin A supplementation, and zinc fortification were found to have the greatest benefits.[58] The analysis clearly states that governments need national plans to scale up nutrition interventions, systems to monitor and evaluate these plans, and laws and policies to enhance the right and status of women and children.

It is clear that to enhance the rates of exclusive breastfeeding during the first 6 months and other feeding practices a comprehensive strategic approach is required, and this should not be left to ad hoc or piecemeal actions.[59] We need to support women, solve their problems, and protect them from the commercial sector influence in order for them to successfully breastfeed their babies, including exclusive breastfeeding for the first 6 months. Most countries, where policy assessments are documented, have shown gaps that need to be bridged to achieve an increase in the rates of breastfeeding.[16] The countdown report 2012 notes that progress on the code has not been made since 2007. Calls for action have been made over the past 5 decades, with more specific ones emerging from the World Health Assembly resolutions adopting the code and later on calling for effective implementation of these at the country level. These proposals need to be transformed from paper to action.

The key actions required to put in place protection, promotion, and support strategies are as follows: include a strong legislative framework on the code, establish systems to support women at work places, and establish IYCF counseling and growth monitoring centers for universal access to skilled counseling. Needless to say, one requires a coordinating mechanism in place along with identified human and financial resources to implement these actions.

To provide a minimum essential program of services, which includes breastfeeding educational services, practical support at birth, continued support until baby is 2 years of age, and maternity leave benefits, the costs are estimated to be approximately $125 per woman needing support in 2007.[48] Such provisions need to be made.

The International Labour Organization should consider revising recommendations made in the 183rd convention,[60] to a 6-month maternity leave. Strong political will is required at the global level for action to take place. Donor governments or other agencies, should establish a budget line and funding for breastfeeding and IYCF to help resource poor countries, considering this as a key element of human right to food.

For example, UN Secretary General's Global Strategy for Women's and Children's Health has an indicator on increasing number of infants that are exclusively breastfeeding for the first 6 months to 21.9 million gives a very precise call and requires a plan of action attached to the expression of concern. The WHO Partnership for Maternal Newborn and Child Health, a global advocacy initiative, should make efforts to prioritize breastfeeding. Global agencies should allocate a *minimum of 13% resources for child survival* and document annual spending on breastfeeding action. In one recent observation of the WHO Partnership for Maternal Newborn and Child Health on financing mechanisms it was noted that "nutrition, including the promotion of early and exclusive breastfeeding, might also continue to be severely underfunded. Few stakeholders explicitly referred to nutrition in their commitments or subsequent interviews". "Priority" needs visibility and institutional mechanisms linked to budgets that will need to be put in place to deliver results. For example, UNICEF could establish an executive directive in all its countries to implement the Global Strategy for Infant and Young Child Feeding adopted in September 2002, and *link it to available resources*.

We encourage both national and global agencies to act on key recommendations for action on each strategy. If, however, there is a need to prioritize, it is most important to first ensure protection of breastfeeding, and subsequently address promotion and support strategies in phases.

Author Note

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. ■

References

1. World Health Organization. Global strategy for infant and young child feeding. http://www.who.int/nutrition/publications/gs_infant_feeding_text_eng.pdf. Published 2003. Accessed February 8, 2013.
2. United Nations Secretary General. Global strategy for women's and children's health 2010. http://www.who.int/pmnch/topics/maternal/201009_globalstrategy_wch/en/index.html. Published September 2010. Accessed February 8, 2013.
3. World Health Organization. Proposed global targets from maternal, infant and young child nutrition (discussion paper). http://www.who.int/nutrition/events/2012_proposed_globaltargets_backgroundpaper.pdf. Published February 6, 2012. Accessed February 8, 2013.
4. UNICEF. Tracking progress on child and maternal malnutrition: a survival and development priority. http://www.unicef.org/publications/files/Tracking_Progress_on_Child_and_Maternal_Nutrition_EN_110309.pdf. Published November 2009. Accessed February 8, 2013.
5. World Health Organization. World health statistics 2009. http://www.who.int/whosis/whostat/2009/en/index.html. Published 2009. Accessed February 8, 2013.
6. Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS; Bellagio Child Survival Study Group. How many child deaths can we prevent this year? *Lancet*. 2003;362:65-71.
7. Darmstadt GL, Bhutta ZA, Cousens S, Adam T, Walker N, de Bernis L. Evidence-based, cost-effective interventions: how many newborn babies can we save? *Lancet*. 2005;365:977-988.
8. Bhutta ZA, Ahmed T, Black RE, et al; Maternal and Child Undernutrition Study Group. What works? Interventions for maternal and child undernutrition and survival. *Lancet*. 2008;371:417-440.
9. Lauer JA, Betrán AP, Barros AJD, Onís MD. Deaths and years of life lost due to suboptimal breast-feeding among children in the developing world: a global ecological risk assessment. *Public Health Nutr*. 2006;9:673-685.
10. Edmond KM, Kirkwood BR, Amenga-Etego S, Owusu-Agyei S, Hurt LS. Effect of early infant feeding practices on infection-specific neonatal mortality: an investigation of the causal links with observational data from rural Ghana. *Am J Clin Nutr*. 2007;86:1126-1131.
11. Edmond KM, Zandoh C, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood BR. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics*. 2006;117:e380-e386.
12. Black RE, Allen LH, Bhutta ZA, et al; Maternal and Child Undernutrition Study Group. Maternal and child under-nutrition: global and regional exposures and health consequences. *Lancet*. 2008;371:243-260.
13. Horta BL, Bahl R, Martines JC, Victora CG, eds. *Evidence on the Long-Term Effects of Breastfeeding: Systematic Reviews and Meta-Analysis*. Geneva, Switzerland: World Health Organization; 2007.
14. UNICEF. The state of world's children 2012. Children in an urban world. http://www.unicef.org/sowc/files/SOWC_2012-Main_Report_EN_21Dec2011.pdf. Published February 2012. Accessed February 8, 2013.
15. Bhutta ZA, Labbok M. Scaling up breastfeeding in developing countries. *Lancet*. 2011;378:378-380.
16. Gupta A, Holla R, Dadhich JP, Suri S, Trejos M, Chanetsa J. The status on policy and programme on infant and young child feeding in 40 countries [published online July 4, 2012]. *Health Policy Plan*. doi:10.1093/heapol/czs061.
17. WBT*i*. World Breastfeeding Trends Initiative. http://www.worldbreastfeedingtrends.org. Accessed February 8, 2013.
18. International Labor Organization. Maternity protection convention (revised), 1952 (No. 103). http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/maternity-protection/lang--en/index.htm. Accessed February 8, 2013.
19. World Health Organization. International code of marketing of breast-milk substitutes. http://www.who.int/nutrition/publications/code_english.pdf. Published 1981. Accessed February 8, 2013.
20. Baby Milk Action. Remembering Senator Edward Kennedy's role in protecting infant health from Nestlé and others [press release]. August 27, 2009. http://www.babymilkaction.org/press/press27aug09.html Accessed May 29, 2011.
21. Palmer G. *The Politics of Breastfeeding*. London, UK: Pinter & Martin; 2008.
22. Nagarajan R. MNC in secret pact with universities for food education. *The Times of India*. January 24, 2011. http://articles.timesofindia.indiatimes.com/2011-01-24/india/28379474_1_mou-pau-punjab-agricultural-university
23. de Oliveira MC, Camacho LAB, Tedstone AE. Extending breastfeeding duration through primary care: a systemic review of prenatal and postnatal interventions. *J Hum Lact*. 2001;17:326-343.
24. World Health Organization. *Contemporary Patterns of Breastfeeding*. Geneva, Switzerland: World Health Organization. http://whqlibdoc.who.int/publications/1981/9241560673_eng.pdf
25. Kaewsarn P, Moyle W, Creedy D. Thai nurses' beliefs about breastfeeding and postpartum practices. *J Clin Nurs*. 2003;12:467-475.
26. Ergenekon-Ozelci P, Elmaci N, Ertem M, Saka G. Breastfeeding beliefs and practices

among migrant mothers in slums of Diyarbakir, Turkey, 2001. *Eur J Public Health*. 2006;16:143-148.

27. Hizel S, Ceyhun G, Tanzer F, Sanli C. Traditional beliefs as forgotten influencing factors on breast-feeding performance in Turkey. *Saudi Med J.* 2006;27:511-518.
28. Yaman H, Akçam M. Breastfeeding practices of health professionals and care workers in Turkey. *Coll Antropol.* 2004;28:877-884.
29. Geckil E, Sahin T, Ege E. Traditional postpartum practices of women and infants and the factors influencing such practices in South Eastern Turkey. *Midwifery.* 2009;25:62-71.
30. Osman H, Zein LE, Wick L. Cultural beliefs that may discourage breastfeeding among Lebanese women: a qualitative analysis. *Int Breastfeed J.* 2009;4:12.
31. Bandyopadhyaya M. Impact of ritual pollution on lactation and breastfeeding practices in rural West Bengal, India. *Int Breastfeed J.* 2009;4:2.
32. Gupta A, Dadhich JP. Infant malnutrition/breastfeeding. In: Quah SR, Heggenhougen HK, eds. *International Encyclopedia of Public Health*. Vol. 3. San Diego, CA: Academic Press; 2008:554-562.
33. World Health Organization. *Infant and Young Child Feeding: Model Chapter for Textbooks for Medical Students and Allied Health Professionals.* Geneva, Switzerland: World Health Organization; 2009.
34. Dennis CL. Breastfeeding initiation and duration: a 1990-2000 literature review. *J Obstet Gynecol Neonatal Nurs.* 2002;31:12-32.
35. Lu M, Lange L, Slusser W, Hamilton J, Halfon N. Provider encouragement of breastfeeding: evidence from a national survey. *Obstet Gynecol.* 2001;97:290-294.
36. Shinwell ES, Churgin Y, Shlomo M, Shani M, Flidel-Rimon O. The effect of training nursery staff in breastfeeding guidance on the duration of breastfeeding in healthy term infants. *Breastfeed Med.* 2006;1:247-252.
37. Aguayo VM, Ross JS, Kanon S, et al. Monitoring compliance with the International Code of Marketing of Breastmilk Substitutes in west Africa: multisite cross sectional survey in Togo and Burkina Faso. *BMJ.* 2003;326:127.
38. Allain A, Kean Y. The youngest market: baby food peddlers undermine breastfeeding. *Multinational Monitor.* July/Aug 2008;30(1). http://www.multinationalmonitor.org/mm2008/072008/allain.html
39. Tylleskar T, Jackson D, Meda N, et al. Exclusive breastfeeding promotion by peer counselors in sub Saharan Africa (PROMISE-EBF): a cluster randomized trial. *Lancet.* 2011;378:420-427.
40. World Health Organization, UNICEF. Protecting, promoting and supporting breastfeeding: the special role of maternity services. http://whqlibdoc.who.int/publications/9241561300.pdf. Published 1989. Accessed February 8, 2013.
41. International Code Documentation Centre. *Breaking the rules, stretching the rules, 2010.* http://www.ibfan.org/art/BTR_2010-ExecSummary(final).pdf. Published 2010. Accessed February 8, 2013.
42. World Health Assembly. Maternal, infant and young child nutrition (WHA 65.6; Agenda Item 13.3). http://apps.who.int/gb/ebwha/pdf_files/WHA65/A65_R6-en.pdf. Published May 26, 2012. Accessed February 8, 2013.
43. Anand RK. King FS, eds. *Helping Mothers to Breastfeed*. Mumbai, India: The Association for Consumers Action on Safety and Health; 1992.
44. Bhandari N, Taneja S, Rogsen T, et al. Implementation of the multicentric growth reference study in India. *Food Nutr Bull.* 2004;25(1 suppl):S66-S71.
45. Imdad A, Yakoob MY, Bhutta ZA. Effect of breastfeeding promotion interventions on breastfeeding rates, with special focus on developing countries. *BMC Public Health.* 2011;11(suppl 3):S24.
46. Kushwaha KP, ed. Reaching the under 2's: universalizing delivery of nutrition interventions in district Lalitpur, Uttar Pradesh. http://www.bpni.org/BFHI/Reaching-the-under-2S-Universalising-Delivery-of-Nutrition-Interventions-in-Lalitpur-UP.pdf. Published July 2010. February 8, 2013.
47. Imdad A, Yakoob MY, Bhutta ZA. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries. *BMC Public Health.* 2011;11(suppl 3):S25.
48. Gupta A. International obligations for infants' right to food. In Kent G, ed. *Global Obligations for the Right to Food.* New York, NY: Rowman & Littlefield; 2008:137-139.
49. United Nations Children's Fund. Innocenti Declaration on the protection, promotion and support of breastfeeding 1990. http://www.unicef.org/programme/breastfeeding/innocenti.htm. Published August 1990. Accessed February 8, 2013.
50. World Health Organization. *Infant and Young Child Feeding Counseling: An Integrated Course.* Geneva: World Health Organization; 2006.
51. Valdes V, Perez A, Labbok M, et al. The impact of a hospital and clinic-based breastfeeding promotion programme in a middle class urban environment. *J Trop Pediatr.* 1993;39:142-151.
52. Pugin E, Valdes V, Labbok MH, et al. Does prenatal breastfeeding skills group education increase the effectiveness of a comprehensive breastfeeding promotion program? *J Hum Lact.* 1996;12:15-19.
53. Lavender T, McFadden C, Baker L. Breastfeeding and family life. *Matern Child Nutr.* 2006;2:145-155.
54. McInnes R, Chambers J. Supporting breastfeeding mothers: qualitative synthesis. *J Adv Nurs.* 2008;62:407-427.
55. Gill SL, Reifsnider E, Mann AR, et al. Assessing infant breastfeeding beliefs among low-income Mexican Americans. *J Perinatal Educ.* 2004;13:39-50.
56. UNICEF. Infant and young child feeding programme review: consolidated report of six-country review of breastfeeding programmes. www.unicef.org/nutrition/files/IYCF-booklet-april-2010-web.pdf. Published April 2010. Accessed February 8, 2013.
57. Lutter CK, Morrow AL. Protection, promotion, and support and global trends in breastfeeding. *Adv Nutr.* In press.
58. Horton R. Maternal and child undernutrition: an urgent opportunity. *Lancet.* 2008;371:179.
59. Gupta A, Dadhich JP, Suri S. Enhancing optimal infant feeding practices in India. *India Health Beat.* 2011;5:4.
60. International Labor Organization. Maternity protection convention, 2000 (No. 183). http://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/maternity-protection/lang--en/index.htm. Accessed February 8, 2013.