

The status of policy and programmes on infant and young child feeding in 40 countries

Arun Gupta,^{1*} Radha Holla,¹ J P Dadhich,¹ Shoba Suri,¹ Marta Trejos² and Joyce Chanetsa³

¹Breastfeeding Promotion Network of India (BPNI), IBFAN Asia, Delhi, India, ²IBFAN Latin America, San Jose, Costa Rica and ³IBFAN Africa, Mbabane, Swaziland

*Corresponding author. Arun Gupta, Regional Coordinator IBFAN Asia, BP-33 Pitampura, Delhi 110088, India.
E-mail: arun.ibfan@gmail.com. Tel: +91-11-27343608. Fax: +91-11-27343606.

Accepted 21 March 2012

Optimal breastfeeding not only saves the lives of children under 5 years, but also improves children's quality of life. In spite of proven benefits and repeated emphasis, the rate of exclusive breastfeeding among children less than 6 months of age is only 36% globally. The Global Strategy for Infant and Young Child Feeding provided a framework for action in 10 areas, and identified the need to assess the implementation of policies and programmes in order to identify gaps and to take action to bridge them. We have utilized the World Breastfeeding Trends Initiative (WBTi) tool to make such an assessment. The WBTi has been introduced in 81 countries and 40 of these had completed their assessment by April 2011. Their findings point out specific gaps in both the policy and programmes in all 10 areas of action identified by the tool. This shows that countries need to work in a co-ordinated manner, with clear plans and committed financial resources, to address gaps in all 10 areas of action. This can result in strong advocacy efforts as well as consensus-based action for the effective implementation of the Global Strategy for Infant and Young Child Feeding to enhance rates of optimal feeding practices.

Keywords Breastfeeding, infant and young child feeding, Millennium Development Goals (MDGs), policy

KEY MESSAGES

- There has been a paucity of information on policy and programmes to implement the Global Strategy for Infant and Young Child Feeding.
- Our analysis shows the World Breastfeeding Trends Initiative (WBTi) tool to be competent for assessing what countries are doing to give effect to policy and programmes in the 10 areas of action identified in the Global Strategy, and what specific gaps exist.
- The WBTi analysis highlights the systematic lack of attention given to policy and programmes for enhancing optimal breastfeeding practices.

Introduction

Prioritizing nutrition and building effective plans for improving the nutritional status of women and children, and especially of infants, is imperative to meet Millennium Development Goals 4 and 5: reduce under-5 mortality and morbidity, and maternal mortality (Bhutta *et al.* 2008; Bryce *et al.* 2008). Optimal infant and young child feeding (IYCF) practices—initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for the first 6 months and timely and appropriate complementary feeding after 6 months along with continued breastfeeding till 2 years or beyond—are key to reducing malnutrition and mortality of children under 5 years of age (UNICEF 2009). Interventions to improve IYCF practices have been recognized as ‘core’ interventions having the highest capacity to effect change in malnutrition (Bhutta *et al.* 2008). However, the global coverage of exclusive breastfeeding among children less than 6 months of age is dismally low at only 36%, which means that only 49 million out of about 136 million babies born annually could practise exclusive breastfeeding for the first 6 months (WHO 2011).

The importance of exclusive breastfeeding for the first 6 months for child survival while enhancing nutritional status has been clearly documented (Jones *et al.* 2003; Darmstadt *et al.* 2005; Bhutta *et al.* 2008), in particular its role in preventing diarrhoea (WHO 2009a), pneumonia (Rudan *et al.* 2008) and thus reducing infant morbidity and mortality. ‘Breastfeeding counseling’ has stood the test of ‘admissible evidence’, being one of the top three nutritional interventions for child survival (Horton 2008).

In 2002, the World Health Assembly (WHA) adopted the Global Strategy for Infant and Young Child Feeding. This provided a framework for action on essentially 10 areas to improve optimal IYCF practices, namely national policy, programme and co-ordination; Baby-Friendly Hospital Initiative (BFHI); implementation of the International Code of Marketing of Breastmilk Substitutes; maternity protection; health and nutrition care system; mother support and community outreach; information support; infant feeding and HIV; infant feeding during emergencies; and monitoring and evaluation (WHO/UNICEF 2002). The UNICEF executive board endorsed it in the same year.

There is a paucity of information in the public domain about the status of policy and programmes in the abovementioned areas on IYCF, though data on IYCF practices are widely available. This highlights a need to monitor and track programmes and policies to identify gaps, and initiate national actions. In 2003, the World Health Organization (WHO) published ‘Infant and Young Child Feeding: A tool for assessing national practices, policy and programmes’ (WHO 2003) to monitor implementation of the Global Strategy and encourage countries to uncover any gaps in policy and programmes so they can be filled. The World Breastfeeding Trends Initiative (WBTi) tool is an adaptation of the WHO tool; it develops the WHO tool further to mobilize national actions to enhance optimal IYCF practices.

Using feedback from regions where the WHO tool was tested, the WBTi made assessment simpler by colour coding the results. In addition, the WBTi questionnaire can be adapted to include new concerns on the implementation of each area of

action addressed in the Global Strategy. For instance, the WBTi tool was updated in 2008–09 to include global developments on ‘maternity protection’ and ‘mother support’. WBTi also made it possible to add web-based software to interpret the findings, to make country findings accessible and observe trends after a few years and repeatedly. It has been introduced in 81 countries, of which 40 have completed their assessment, documented gaps and reported their findings. This paper provides key findings of the status of policy and programmes on IYCF from these 40 countries and discusses the way forward.

Methods

Process for national assessment

The International Baby Food Action Network (IBFAN) Asia prepared a set of guidelines and training materials for implementation of the WBTi at the national level. This was launched in eight countries of south Asia in 2005, and a repeat assessment was conducted in 2008 to study trends. Having seen the success in generating action locally, it was introduced to other regions of the world. An international core group was trained in June 2008. The core group members, mostly the regional co-ordinators of IBFAN, conducted regional training of national contacts in South Asia, East Asia, Southeast Asia, Africa and the Latin America and Caribbean region (LAC) in September/October 2008, leading to the introduction of the WBTi tool in 50 countries. From 2009 to 2011, 31 countries were added in the Arab world, Africa and the Oceania region.

Trained country contacts lead the assessment process at national level and co-ordinate a core group to conduct the national assessment. The core group typically consists of representatives of civil society organizations, governments, professional organizations, medical colleges, UNICEF and WHO, and other concerned organizations and individuals. The co-ordinator briefs the core group and introduces the tool and the process. Each member of the core group is assigned with a specific task to study the given indicator/s. Data on IYCF practices are used from the country data which are national in scope. Information on policy and programmes is gathered using relevant documentation and/or interviews. All information provided usually has an authentic source that needs to be documented. This information is utilized to fill up the questionnaire (<http://www.worldbreastfeedingtrends.org/docs/Final-questionnaire-2011.pdf>). These findings are presented to the core group members and agreed upon. This information is then presented to a larger group of stakeholders who identify and document achievements and gaps, and develop recommendations. Consensus is built among the stakeholders on gaps and recommendations. Once achieved, these are sent to the central team at IBFAN Asia Regional office. The IBFAN Asia team conducts the primary analysis as per the checklist (like authenticity of the information source used for the programme and policy indicators, and whether data used for IYCF practice indicators are national in scope) and asks for clarifications from the country co-ordinator if there are any queries.

After receiving the revised data, a reassessment is done by the regional co-ordinating office and final data are shared with the country co-ordinator for approval. Once the findings are finalized these are uploaded onto the web-based tool. The web

Table 1 Subset of questions for each of the 10 WBTi indicators of infant and young child feeding policy and programmes

Indicators	Questions
National policy, programme and co-ordination	<ol style="list-style-type: none"> (1) A national infant and young child feeding/breastfeeding policy has been officially adopted/approved by the government. (2) The policy promotes exclusive breastfeeding for the first 6 months, complementary feeding to be started after 6 months and continued breastfeeding up to 2 years and beyond. (3) A national plan of action has been developed with the policy. (4) The plan is adequately funded. (5) There is a national breastfeeding (infant and young child feeding) committee. (6) The national breastfeeding (infant and young child feeding) committee meets and reviews on a regular basis. (7) The national breastfeeding (infant and young child feeding) committee links effectively with all other sectors like health, nutrition, information etc. (8) Breastfeeding committee is headed by a co-ordinator with clear terms of reference.
Baby-Friendly Hospital Initiative (10 steps to successful breastfeeding)	<ol style="list-style-type: none"> (1) Quantitative: percentage of BFHI hospitals. (2) Qualitative to find skilled training inputs and sustainability of BFHI: this subset looks at the percentage of BFHI-designated hospitals that have been certified after a minimum recommended training of 18 hours for all its staff working in maternity services. (3) BFHI programme relies on training of health workers. (4) A standard monitoring system is in place. (5) An assessment system relies on interview of mothers. (6) Reassessment systems have been incorporated in national plans. (7) There is a time-bound programme to increase the number of BFHI institutions in the country.
Implementation of the International Code	<ol style="list-style-type: none"> (1) No action taken. (2) The best approach is being studied. (3) National breastfeeding policy incorporating the Code in full or in part but not legally binding and therefore unenforceable. (4) National measures (to take into account measures other than law) awaiting final approval. (5) Administrative directive/circular implementing the Code in full or in part in health facilities with administrative sanctions. (6) Some articles of the Code as a voluntary measure. (7) Code as a voluntary measure. (8) Some articles of the Code as law. (9) All articles of the Code as law. (10) All articles of the Code as law, monitored and enforced.
Maternity protection	<ol style="list-style-type: none"> (1) Women covered by the national legislation are allowed the following weeks of paid maternity leave: <ul style="list-style-type: none"> • Any leave < 14 weeks = 0.5 (score) • 14–17 weeks = 1 (score) • 18–25 weeks = 1.5 (score) • ≥26 weeks = 2 (score) (2) Women covered by the national legislation are allowed at least one breastfeeding break or reduction of work hours daily. <ul style="list-style-type: none"> • Unpaid break = 0.5 (score) • Paid break = 1 (score) (3) Legislation obliges private sector employers of women in the country to give at least 14 weeks paid maternity leave and paid nursing breaks. (4) There is provision in national legislation that provides for work site accommodation for breastfeeding and/or childcare in work places in the formal sector. (5) Women in informal/unorganized and agriculture sector are: <ul style="list-style-type: none"> • accorded some protective measures • accorded the same protection as women working in the formal sector. (6) a. Information about maternity protection laws, regulations or policies is made available to workers.

(continued)

Table 1 Continued

Indicators	Questions
Health and nutrition care systems	<p>b. There is a system for monitoring compliance and a way for workers to complain if their entitlements are not provided.</p> <p>(7) Paternity leave is granted in the public sector for at least 3 days.</p> <p>(8) Paternity leave is granted in the private sector for at least 3 days.</p> <p>(9) There is legislation providing health protection for pregnant and breastfeeding workers: they are informed about hazardous conditions in the workplace and provided alternative work at the same wage until they are no longer pregnant or breastfeeding.</p> <p>(10) There is legislation prohibiting employment discrimination and assuring job protection for women workers during the breastfeeding period.</p> <p>(11) ILO MPC No 183 has been ratified, or the country has a national law equal to or stronger than C183.</p> <p>(12) The ILO MPC No 183 has been enacted, or the country has enacted provisions equal to or stronger than C183.</p> <p>(1) A review of health provider schools and pre-service education programmes in the country indicates that infant and young child feeding curricular session plans are adequate/inadequate.</p> <p>(2) Standards and guidelines for mother-friendly childbirth procedures and support have been developed and disseminated to all facilities and personnel providing maternity care.</p> <p>(3) There are in-service training programmes providing knowledge and skills related to infant and young child feeding for relevant health/nutrition care providers.</p> <p>(4) Health workers are trained with responsibility towards Code implementation as a key input.</p> <p>(5) Infant feeding-related content and skills are integrated, as appropriate, into training programmes focusing on relevant topics (diarrhoeal disease, acute respiratory infection, integrated management of childhood illness, well-child care, family planning, nutrition, the Code, HIV/AIDS, etc.)</p> <p>(6) These in-service training programmes are being provided throughout the country.</p> <p>(7) Child health policies provide for mothers and babies to stay together when one of them is sick.</p>
Mother support and community outreach	<p>(1) All pregnant women have access to community-based support systems and services on infant and young child feeding.</p> <p>(2) All women have access to support for infant and young child feeding after birth.</p> <p>(3) Infant and young child feeding support services have national coverage.</p> <p>(4) Community-based support services for the pregnant and breastfeeding woman are integrated into an overall infant and young child health and development strategy (inter-sectoral and intra-sectoral).</p> <p>(5) Community-based volunteers and health workers possess correct information and are trained in counselling and listening skills for infant and young child feeding.</p>
Information support	<p>(1) There is a comprehensive national information, education and communication (IEC) strategy for improving infant and young child feeding.</p> <p>(2) IEC programmes (e.g. World Breastfeeding Week) that include infant and young child feeding are being actively implemented at local levels.</p> <p>(3) Individual counselling and group education services related to infant and young child feeding are available within the health/nutrition care system or through community outreach.</p> <p>(4) The content of IEC messages is technically correct, sound, based on national or international guidelines.</p> <p>(5) A national IEC campaign or programme using electronic and print media and activities has channelled messages on infant and young child feeding to targeted audiences in the last 12 months.</p>
Infant feeding and HIV	<p>(1) The country has a comprehensive policy on infant and young child feeding that includes infant feeding and HIV.</p> <p>(2) The infant feeding and HIV policy gives effect to the International Code/National Legislation.</p>

(continued)

Table 1 Continued

Indicators	Questions
Infant feeding during emergencies	(3) Health staff and community workers receive training on HIV and infant feeding policies, the risks associated with various feeding options for infants of HIV-positive mothers and how to provide counselling and support.
	(4) Voluntary and Confidential Counselling and Testing (VCCT) is available and offered routinely to couples who are considering pregnancy and to pregnant women and their partners.
	(5) Infant feeding counselling in line with current international recommendations and locally appropriate is provided to HIV-positive mothers.
	(6) Mothers are supported in making their infant feeding decisions with further counselling and follow-up to make implementation of these decisions as safe as possible.
	(7) Special efforts are made to counter misinformation on HIV and infant feeding and to promote, protect and support 6 months of exclusive breastfeeding and continued breastfeeding in the general population.
	(8) On-going monitoring is in place to determine the effects of interventions to prevent HIV transmission through breastfeeding on infant feeding practices and overall health outcomes for mothers and infants, including those who are HIV negative or of unknown status.
	(9) The Baby-Friendly Hospital Initiative incorporates provision of guidance to hospital administrators and staff in settings with high HIV prevalence on how to assess the needs and provide support for HIV-positive mothers.
	(1) The country has a comprehensive policy on infant and young child feeding that includes infant feeding in emergencies.
	(2) Person(s) tasked with responsibility for national co-ordination with the United Nations, donors, military and non-government organizations regarding infant and young child feeding in emergency situations have been appointed.
Monitoring and evaluation	(3) An emergency preparedness plan to undertake activities to ensure exclusive breastfeeding and appropriate complementary feeding and to minimize the risk of artificial feeding has been developed.
	(4) Resources have been identified for implementation of the plan during emergencies.
	(5) Appropriate teaching materials on infant and young child feeding in emergencies have been integrated into pre-service and in-service training for emergency management and relevant health care personnel.
	(1) Monitoring and evaluation components are built into major infant and young child feeding programme activities.
	(2) Monitoring or Management Information System (MIS) data are considered by programme managers in the integrated management process.
	(3) Adequate baseline and follow-up data are collected to measure outcomes for major infant and young child feeding programme activities.
	(4) Evaluation results related to major infant and young child feeding programme activities are reported to key decision-makers.
	(5) Monitoring of key infant and young child feeding practices is built into a broader nutritional surveillance and/or health monitoring system or periodic national health surveys.

ILO MPC = The International Labour Organization Maternity Protection Convention.

Table 2 Guidelines for colour rating of infant and young child feeding policy and programme indicators

Scores	Colour rating
0–30	Red
31–60	Yellow
61–90	Blue
91–100	Green

tool provides a score and colour coding on the status of implementation of each of 10 indicators (1–10) on policy and programmes, and five (11–15) on IYCF practices. These findings are used for generating reports and report cards.

The tool to rate indicators

The WBTi tool is based on a wide range of indicators, which provide an impartial view of key factors responsible for ensuring optimal feeding practices. Ten indicators relate to policies and programmes, and five to IYCF practices. Each indicator that deals with policies and programmes has a subset of questions that go into finer detail to identify achievements

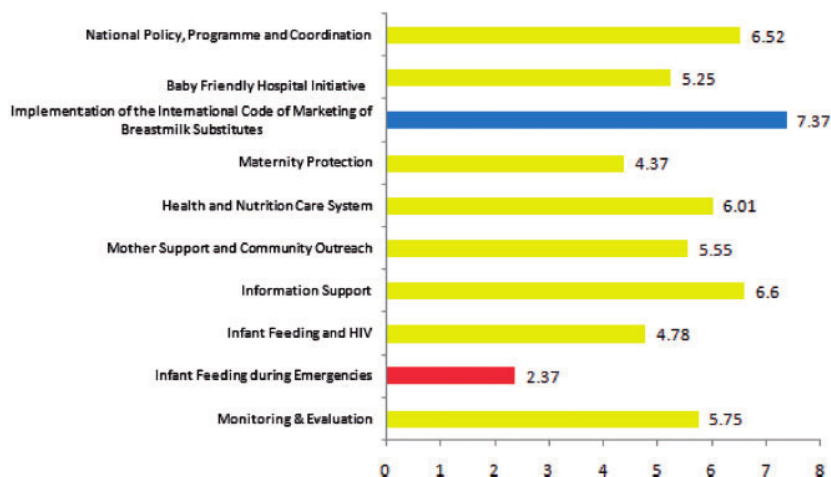


Figure 1 Average scores of 10 indicators on policy and programmes

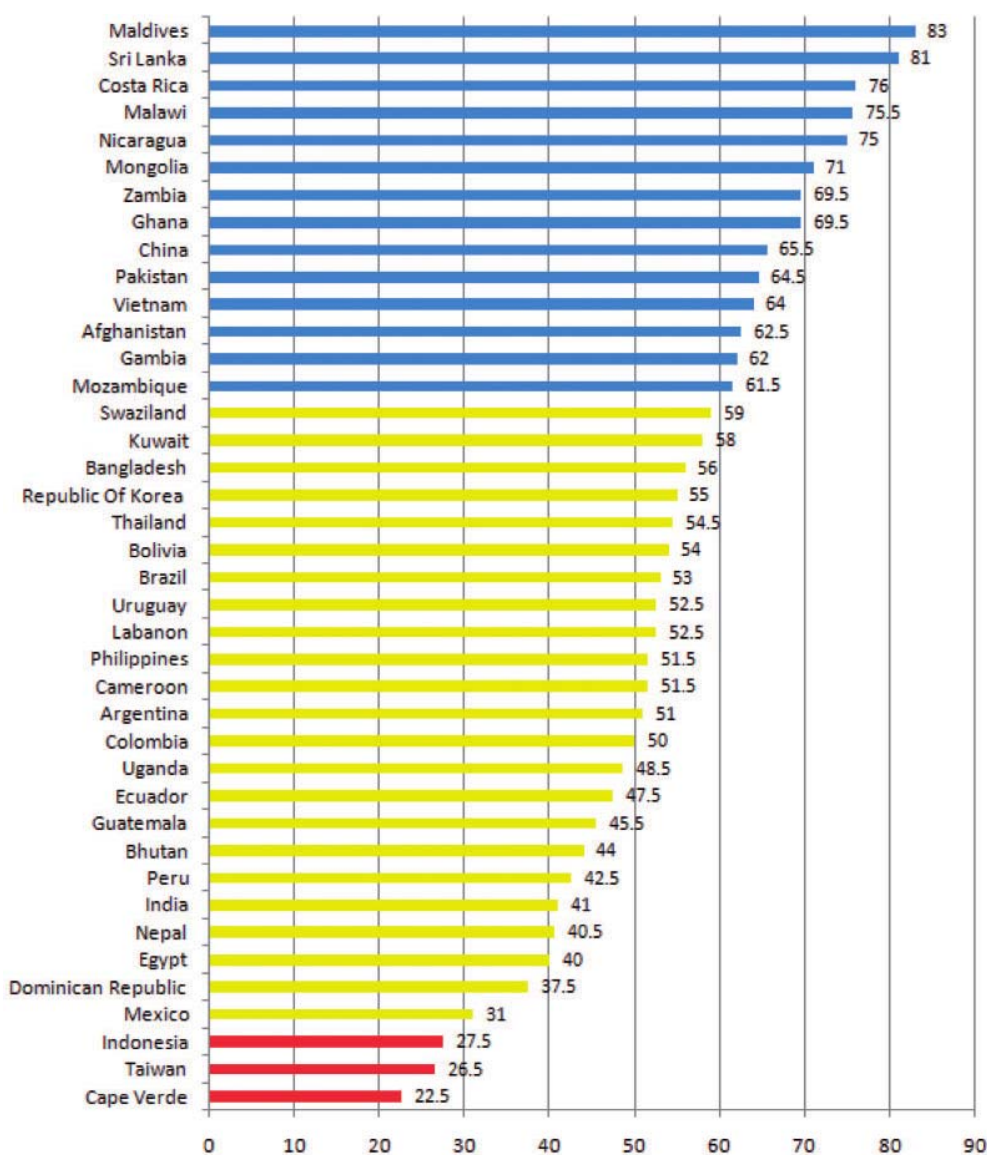


Figure 2 The state of policies and programmes on infant and young child feeding in 40 countries on a scale of 0-100

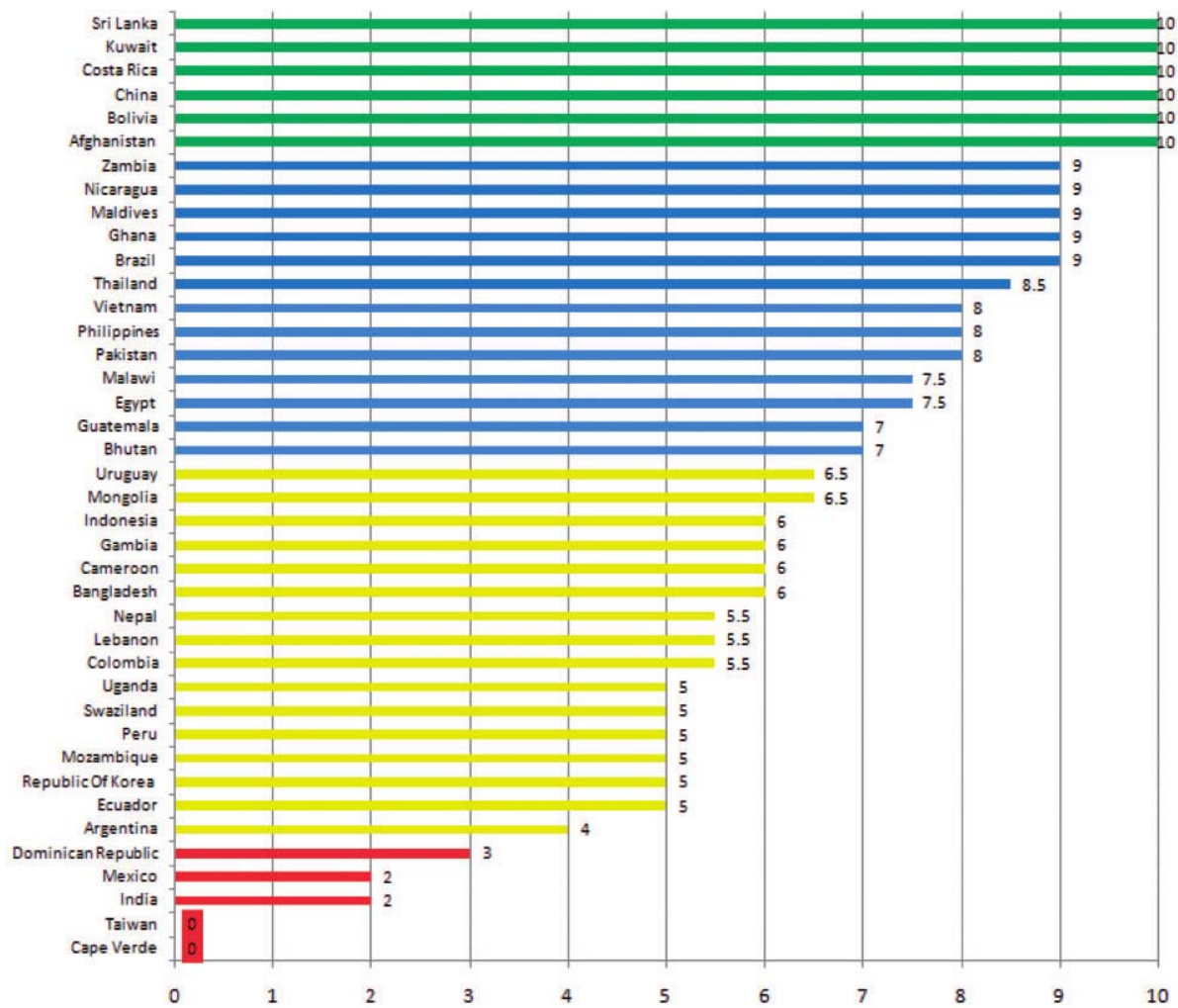


Figure 3 The state of national policy, programme and co-ordination in 40 countries on a scale of 0–10

and gaps. This information indicates how a country is performing in a particular area (Table 1).

Each subset question has a possible score of 0–3 and each indicator has a maximum score of 10. The system of scoring may differ in some indicators depending on the questions asked but each indicator is measured on a scale of 10 and thus the maximum score for the 10 indicators dealing with policy and programmes is 100.

The five indicators dealing with IYCF practices reveal how effectively a country has implemented its policies and programmes. For these indicators, countries have to use secondary numerical data on each indicator from a random household survey that is national in scope. The WBTi process does not undertake primary household surveys.

The maximum score for the five indicators dealing with feeding practices is 50. The maximum score for all 15 indicators is therefore 150.

Guidelines for scoring and colour coding

The level of achievement on each indicator from 1 to 10 is then rated on a scale to provide colour coding, as per the guidelines

(Table 2) which have been developed using the key to scoring provided in the WHO assessment tool. In the WBTi tool, a score of 90% and above is coded green and considered to be maximum achievement. The other three colours in descending order of performance are blue, yellow and red. Please note that throughout the paper all graphs appear only in grey scale. Green, blue and red bars appear ‘black’ and yellow bars appear ‘greyish’. Each bar represents a score out of 10. However, these bars appear in colour in the online version of this article.

Results

Average score of 10 indicators on policy and programmes

Figure 1 shows the average score for each indicator on policy and programmes on a scale of 1–10. It is clear that many of these indicators have a long way to go to achieve optimal rates of breastfeeding. Maternity protection, HIV and infant feeding, and infant feeding during emergencies received the lowest scores.

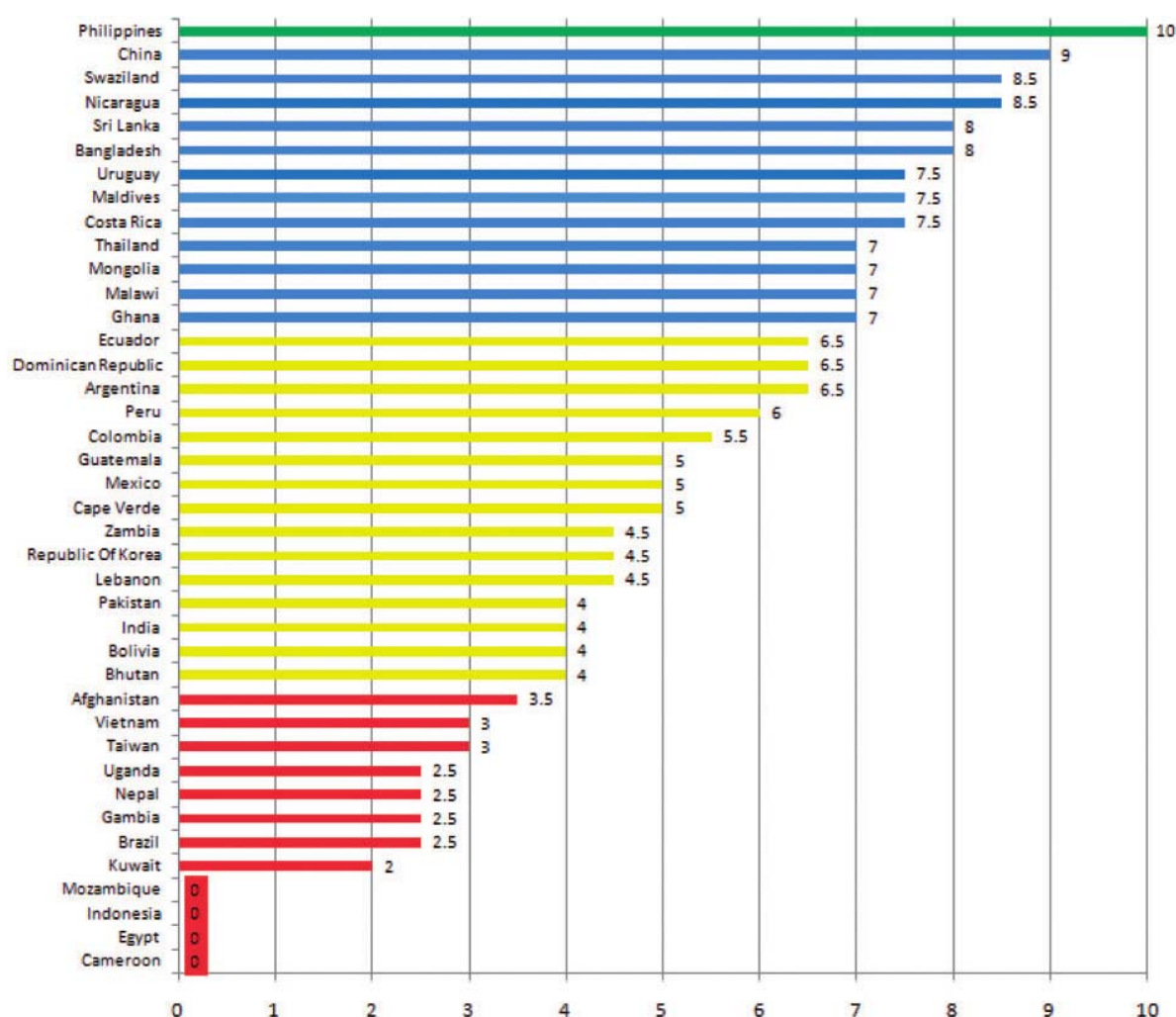


Figure 4 The state of the Baby-Friendly Hospital Initiative in 40 countries on a scale of 0–10

The state of policies and programmes on IYCF in each country

Figure 2 gives the combined state of WBTi indicators related to IYCF policies and programmes, measured on a scale of 1–100 for the 40 countries assessed. The average score for the 40 countries is 54.3 for all the 10 indicators. More than half of the countries (23) fall into the yellow band, i.e. below 60; 14 countries fall into the blue band, scoring between 61 and 90; and three countries are in the red band, with scores below 30. No country has yet scored enough to enter the green level, i.e. above 90.

Status of each indicator on policy and programmes

National policy, programme and co-ordination

This indicator, which examines the existence of a national policy and mechanisms of co-ordination and budgeting around breastfeeding and IYCF programmes, gets an average score of 6.52. Figure 3 shows that only six countries scored a full 10; 13 countries scored between 7 and 9, 16 countries scored between 3 and 6.5, and five received a score below 3. An examination of

the subset of questions—related to whether a country has a national policy, a national plan of action, or whether a budget is assigned for this purpose—points out exactly where the gaps are and therefore gives an idea of what needs to be done with regard to establishing policy and co-ordination for enhancing optimal breastfeeding rates (see online at: <http://www.world-breastfeedingtrends.org/docs/INDICATOR-1.pdf>). The findings reveal that 33 out of 40 countries report having a policy, but only 25 have a plan and only 11 report that the plan is adequately funded. Similarly, while 28 countries have national committees, only 17 function effectively.

Baby-Friendly Hospital Initiative (10 steps to successful breastfeeding)

This indicator assesses the BFHI both quantitatively and qualitatively as well the process of re-assessment. The average score is 5.25, clearly showing that the BFHI has not yet become fully integrated into the health system in almost all the countries. Figure 4 shows that only one out of 40 countries, namely the Philippines, scored a full 10. Twelve countries fall in the red band,

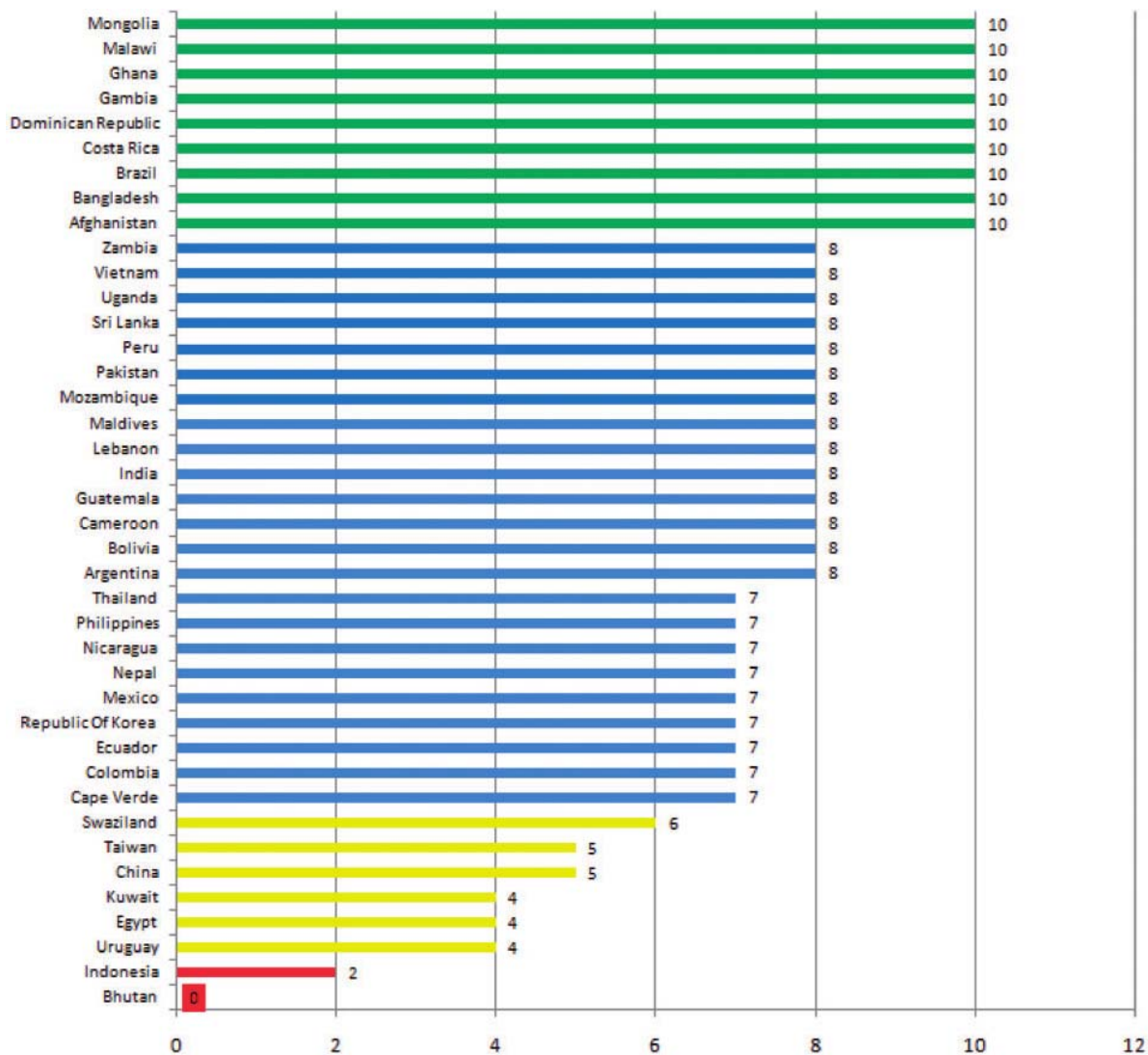


Figure 5 The state of implementation of the International Code of Marketing of Breastmilk Substitutes in 40 countries on a scale of 0–10

scoring below 3.5, of which four countries score 0; 15 countries fall in the yellow band, and 12 in the blue band. The subset for this indicator is divided into three parts. The assessments show that only 22 countries report having more than 50% of the hospitals achieving BFHI status. Further, only 14 countries report that the majority of the BFHI hospitals used 18-hour training as a standard practice for health workers. Similarly 18 out of 40 indicate that there are systems of re-assessment in place. The subset findings indicate the specific actions that individual countries need to take to mainstream BFHI (see online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-2.pdf> for details of subset scores for each country).

Implementation of the International Code of Marketing of Breastmilk Substitutes

The average score for this indicator is 7.37, the highest of all indicators. Nine countries score a complete 10, and fall within the green band and 23 countries score between 7 and 9, falling

within the blue band; the rest are below this level (Figure 5). However, as the analysis of the subsets indicates (see online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-3.pdf>), there is much scope for countries to improve the protection of breastfeeding through adopting and implementing the International Code and enacting national legislation. Even countries with good scores need to work on effective implementation and monitoring, as merely having a law is not enough.

Maternity protection

This indicator, which measures the status of maternity entitlements, including maternity leave, breastfeeding breaks, paternity leave and non-discrimination, gets the second lowest score with an average of 4.37. Not a single country has a perfect score of 10; only one country scores 9, 14 countries have scores between 7 and 9, and 20 countries score below 3.5 (Figure 6). Detailed findings from the subset of questions (online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-4>).

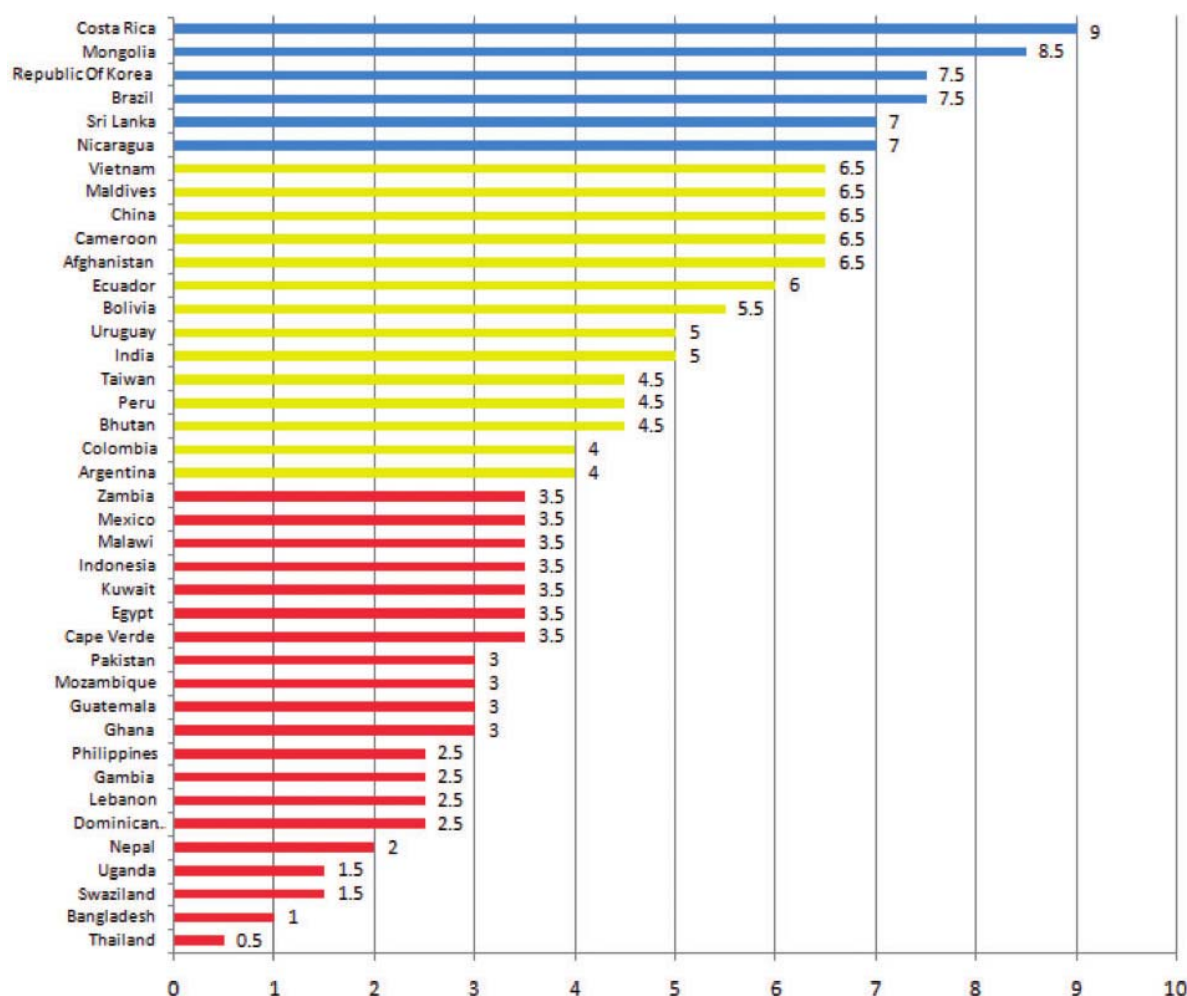


Figure 6 The state of maternity protection in 40 countries on a scale of 0–10

pdf) reveal that only three countries provide maternity leave of more than 26 weeks, and 29 give less than 14 weeks. At least one paid breastfeeding break is given in 29 countries, and 14 countries have legislation requiring the private sector to give at least 14 weeks of maternity leave. Six countries report similar levels of protection for women working in the unorganized sector. Legislative provisions for accommodation for breastfeeding or childcare at worksites are provided in 16 countries only. Paternity leave of at least 3 days is provided in half the countries. These findings indicate a profound lack of support to women in each of the assessed countries.

Health and nutrition care systems

This indicator examines whether health care providers undergo skilled training for counselling on breastfeeding and IYCF, whether their pre-service curriculum enables health workers to support women at birth, and their responsibility towards International Code implementation. Only three of 40 countries have a full score of 10; the average score is 6.01 (Figure 7). Eleven countries score between 7 and 9, 24 countries score between 4 and 6.5 and only two countries are in the red band,

of which one has score of zero. Details of subsets reveal that in only six countries are pre-service plans adequate, in nine countries standards guidelines on support at birth are in place and in 19 countries training programmes are in place (online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-5.pdf>). However, in only eight countries are health workers trained about their responsibility towards Code implementation. The scores indicate that national health and nutrition systems in the assessed countries have not integrated or built capacity to protect and support optimal breastfeeding practices.

Mother support and community outreach: community-based support for the pregnant and breastfeeding mother

This indicator examines if there are mother support and community outreach systems in place to protect, promote and support optimal practices. It gets an average score of 5.55, showing that in most countries pregnant women and women who have just given birth have limited access to community-based support systems on IYCF. No countries fall within the green band and only three countries score 9. Thirteen countries are in the blue band, scoring between

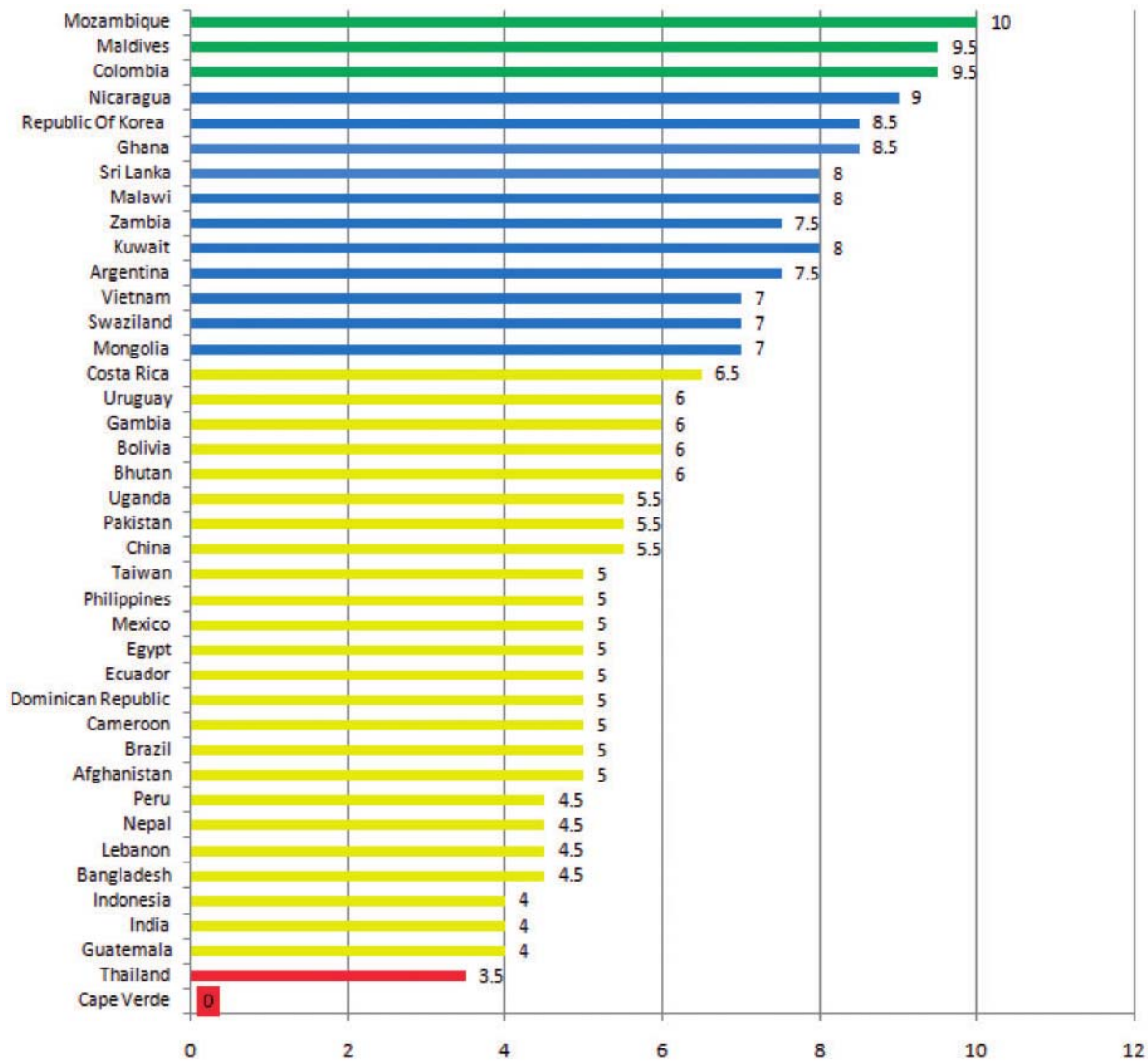


Figure 7 The state of health and nutrition care systems in 40 countries on a scale of 0–10

7 and 9. Six countries score below 3 and one scores zero (Figure 8). Deeper examination of the subset of questions reveals that although 17 countries report having community-based support integrated in the child health and development strategy, just six countries report that all pregnant and lactating women have access to such services (online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-6.pdf>). Similarly, only six countries report that their community-based workers possess the skills and knowledge to counsel on breastfeeding/IYCF.

Information support

This indicator examines what kind of information on IYCF is handed out by the State through media or other methods, whether it is technically correct or not, and what are the Information, Education and Communication (IEC) strategies. The average score of this indicator is 6.6 with only three countries getting a full 10. The majority of countries fall in the blue band, scoring between 7 and 9; 12 countries score

between 4 and 6 and five score below 3 (Figure 9). An analysis of the subsets shows that 29 countries provide technically correct information to their population, and only 11 have a comprehensive IEC strategy for improving IYCF practices (online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-7.pdf>). Just half of the countries report that IEC programmes are being actively implemented at local levels. The results indicate a high level of interest but the lack of a comprehensive approach.

Infant feeding and HIV

This indicator examines what kind of support on IYCF is made available at policy and programme level to women who are found to be HIV-positive. The average score of the 40 countries for this indicator is 4.78 (Figure 1), with none reaching the green level. Sixteen countries fall within the red band, scoring below 3.5. Four countries score zero, indicating that these countries have very inadequate policies and programmes related

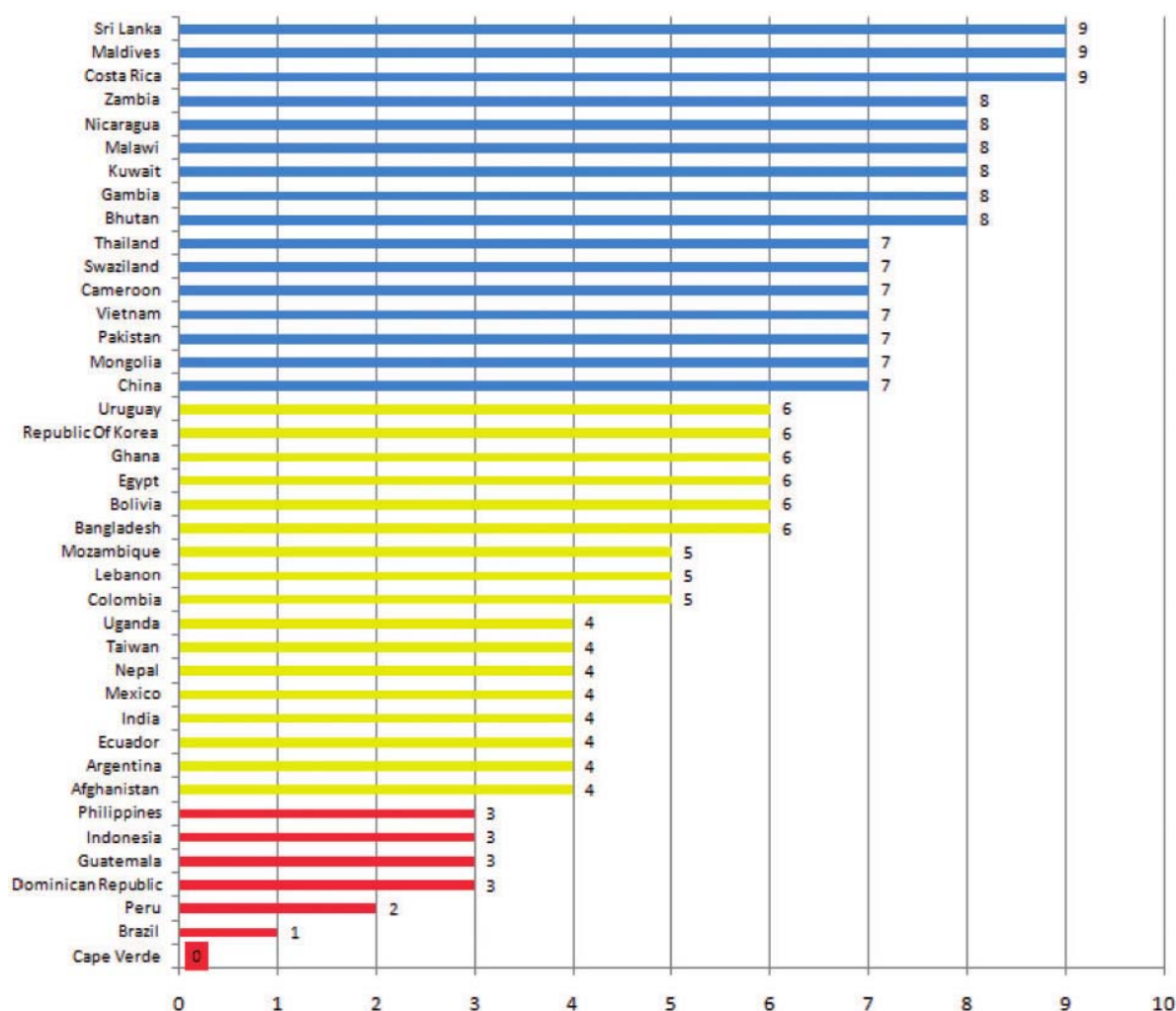


Figure 8 The state of mother support and community outreach in 40 countries on a scale of 0–10

to infant feeding and HIV (Figure 10). The subsets show that out of 40 countries assessed, only 17 countries have a comprehensive national policy on IYCF that includes infant feeding and HIV (online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-8.pdf>). Of all the regions studied, countries from the African region reported having adequately included infant feeding and HIV in their national policies. In only eight countries is it reported that health workers are trained in HIV and infant feeding. Six countries report that mothers are supported in their decisions on infant feeding, while only five report that ongoing monitoring is in place.

Infant feeding during emergencies

This indicator examines how women are supported during emergency or disaster situations to maintain feeding of their infants, and what kind of policy there is to protect and support mothers for appropriate feeding of their babies. The indicator scored the lowest average of all indicators, at 2.37, showing an overall lack of preparedness for such situations. Only two out of

40 countries score a 10, having prioritized infant feeding during emergencies and included it in their policy on IYCF. The majority, 28 countries, are in the red band, with 16 countries scoring zero (Figure 11). Nine countries report having a policy that includes infant feeding in emergencies; however, only two report being ready to support breastfeeding mothers if a disaster strikes (online at: <http://www.worldbreastfeedingtrends.org/docs/INDICATOR-9.pdf>). In eight countries persons have been given responsibility for this task, four have identified resources for implementation of their plan and two have put it into their pre-service curriculum.

Monitoring and evaluation

This indicator examines if countries collect data routinely and whether these data are used to improve IYCF practices. The average score for this indicator was 5.75. Only four out of 40 countries scored a perfect 10, with 12 countries scoring between 7 and 9 and 16 countries between 4 and 6. Eight countries fall in the red band, scoring below 3; of these, three countries have

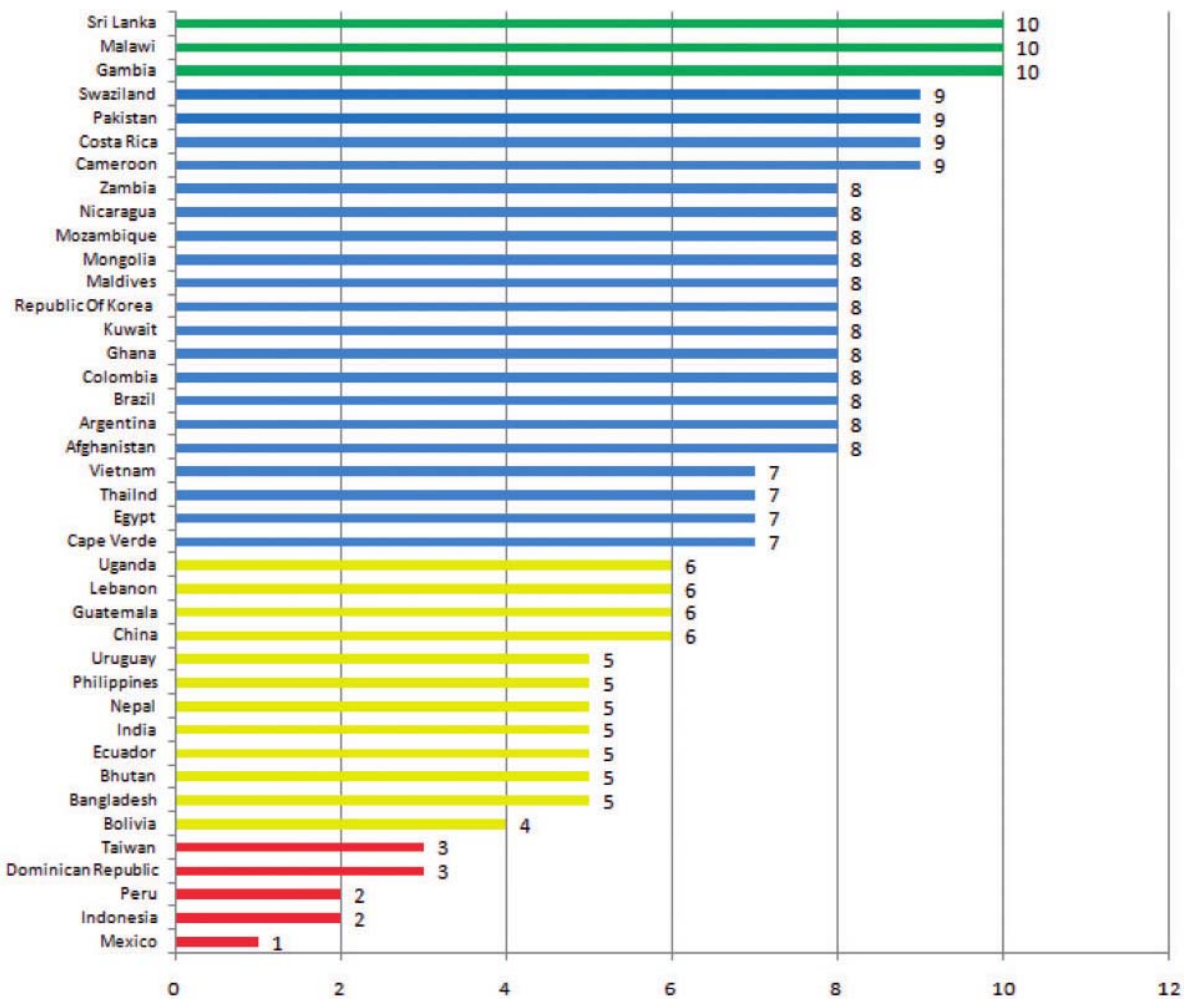


Figure 9 The state of information support in 40 countries on a scale of 0–10

scores of zero (Figure 12). Twelve countries report that monitoring and evaluation is built into their major programmes; 14 report that the policy makers use data from a management information system (online at: <http://www.world-breastfeedingtrends.org/docs/INDICATOR-10.pdf>). Monitoring of key IYCF practices is built into a broader nutrition surveillance or health monitoring system or surveys in only 15 countries. The results indicate that due emphasis is not being given to this indicator by the majority of countries in the study.

Indicators on IYCF practices

Optimal IYCF practices include initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for the first 6 months of life and addition of appropriate and adequate family foods for complementary feeding after 6 months, together with continued breastfeeding for 2 years or beyond. These five indicators of resultant IYCF practices are also examined from the available secondary data that is national in scope. While data on practices are based on actual figures, colour rating is done by IBFAN Asia.

Figure 13 provides an average for each IYCF practice indicator from among the countries where these data were available and reported.

The results indicate that IYCF practices in the assessed countries are nowhere near optimal. The average rate of initiation of breastfeeding within 1 hour of birth as reported by 36 countries is just above 50%. Exclusive breastfeeding for the first 6 months as reported by 38 countries is 42.5%. The median duration of breastfeeding is 18.6 months. Bottle-feeding as reported by 32 countries is 31.7%. The percentage of breastfed babies receiving complementary foods at 6–9 months is only 65.2%. Some countries do not even have national data of these indicators.

Country-wise details can be viewed online at: <http://www.worldbreastfeedingtrends.org/docs/Ind-11-15.pdf>.

Discussion

One aim of the UN Secretary General’s Global Strategy for Women’s and Children’s Health is that by 2015, 21.9 million

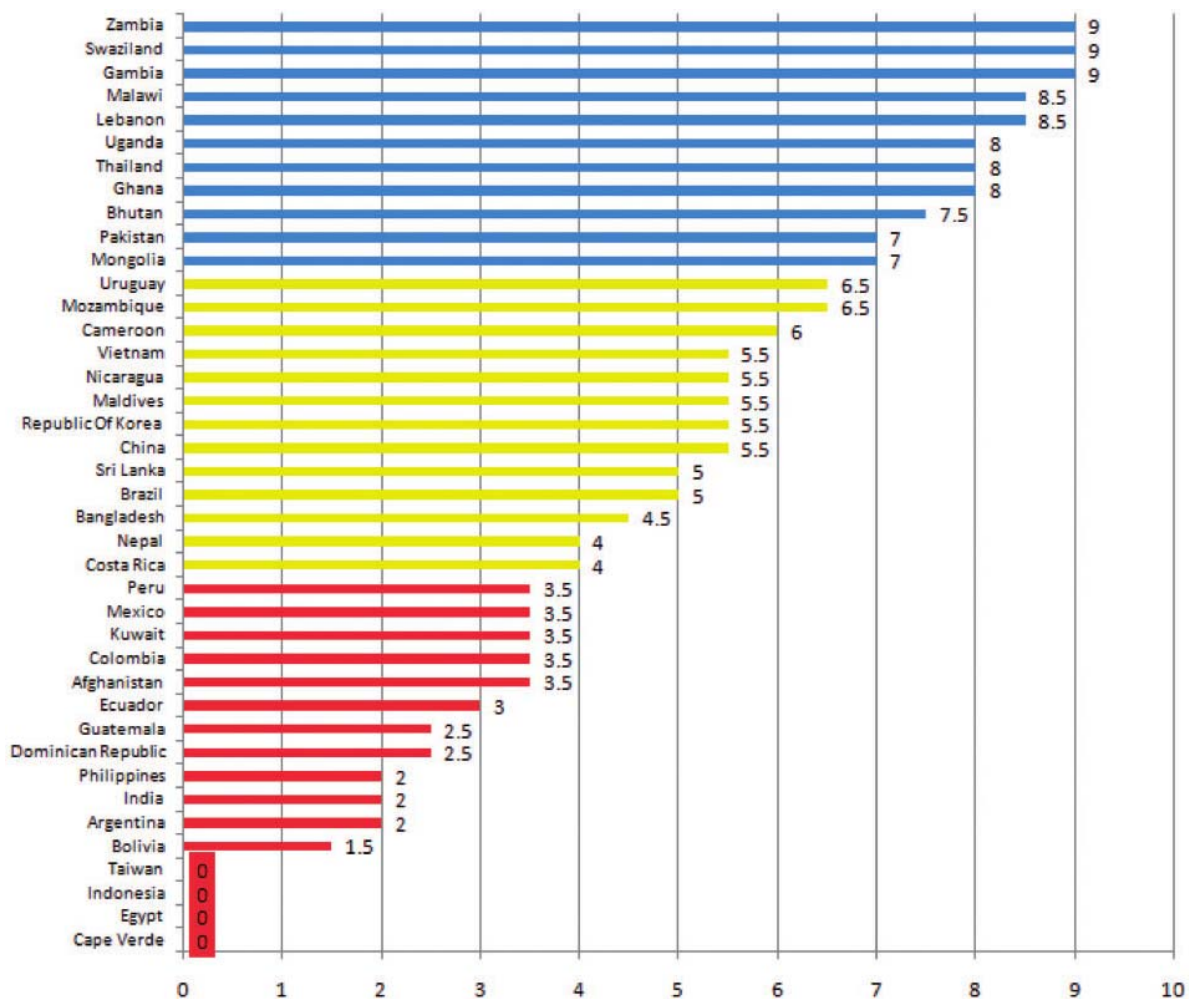


Figure 10 The state of infant feeding and HIV in 40 countries on a scale of 0–10

more infants in 49 least developed countries will be exclusively breastfed for the first 6 months of life (UN Secretary General 2010). The Global Strategy for Infant and Young Child Feeding (WHO 2002) and several World Health Assembly (WHA) resolutions on infant and young child nutrition also call for increased programme and policy focus to enhance rates of exclusive breastfeeding for the first 6 months. It is well known that rates of breastfeeding and complementary feeding can be enhanced through strengthening investments for community-based approaches (Victora *et al.* 2008).

A striking fact that emerges from the WBTi analysis of the Global Strategy for IYCF in 40 countries is the systematic lack of attention to policy and programmes for enhancing optimal breastfeeding practices. Policy, co-ordination, funds, training and monitoring are just some of the factors that must be mainstreamed into all child health, nutrition and development programmes, as well as in sectors such as labour, welfare and so on.

The low scores for the indicator on National Policy, Programme and Coordination highlight the need to put policies in place so as to ensure support to women at birth, at home, in

the community and the workplace. Effective outreach programmes need to be created which are easily accessible to women needing help and support. Studies have shown that health policy and programme 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 (Valdes *et al.* 1993; Pugin *et al.* 1996; de Oliveira *et al.* 2001).

The adoption of BFHI, through its 10 steps to successful breastfeeding, has been an effective strategy to promote and protect breastfeeding by the provision of necessary support to mothers to initiate and maintain lactation even after discharge from hospitals (Kramer *et al.* 2001). A Brazilian study (Lutter *et al.* 1997) highlights the vital role played by Step 10 of the BFHI: community facilitation of breastfeeding. There is clear evidence that if all women have to be reached for support, the concept 'baby friendly' needs to be extended to the community at large. Various studies across the world (Bhandari *et al.* 2003; Chapman *et al.* 2004; Aidam *et al.* 2005; Anderson *et al.* 2005) have highlighted the vital role of community-based skilled counselling on breastfeeding trained personnel. A recent study

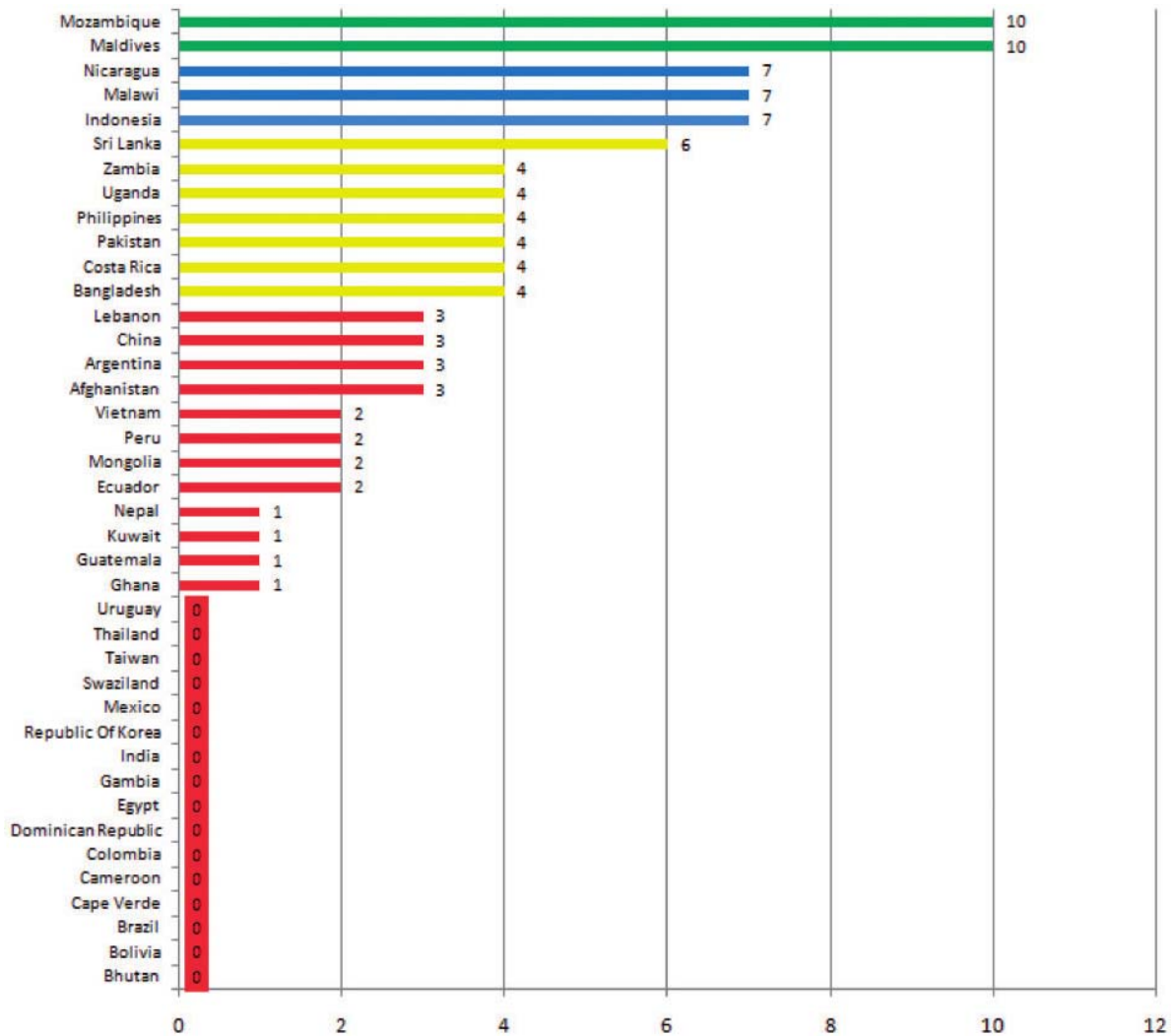


Figure 11 The state of infant feeding during emergencies in 40 countries on a scale of 0–10

has shown the value of peer counselling by well trained counsellors in Africa, and should be replicated in other parts of the world (Tylleskar *et al.* 2011). Studies have also emphasized that one-to-one counselling is required to achieve higher rates at 6 months, while group counselling could work to enhance exclusive breastfeeding at 4 to 6 weeks (Imdad *et al.* 2011). Skilled training is essential for both providing technical support to women on how to hold the baby, the right latching, and so on, as well as to remove any doubts they may have about their ability to breastfeed successfully. This health facility approach must then be linked to community-based support.

The International Code of Marketing of Breastmilk Substitutes and subsequent WHA resolutions to protect breastfeeding have been ratified by nearly all countries, including the 40 countries that have carried out the WBTi assessment. However, as the assessment shows, there are still several actions to be taken if the Code is to effectively protect and promote optimal breastfeeding practices. There is ample evidence to show that companies continue to violate the Code or

national legislations and undermine breastfeeding (Allain *et al.* 2008). The 2010 report of the International Code Documentation Centre indicates a global upsurge in sales of baby food and a double digit growth is forecast for several regions by 2015. Companies are continuing to promote baby foods and their practices are becoming more insidious, often riding on the coattails of breastfeeding. Policy intervention is recommended as strong laws may help to change the situation (International Code Documentation Centre 2010).

The international instruments obligate States to take appropriate measures to ensure the realization of the human right to adequate food for infants. The infant’s right to food is primarily based on the mother being able to actualize her rights to successfully breastfeed her infant. In an analysis of breastfeeding it was concluded that building mothers’ capacity to perform breastfeeding is essential, as is action to enhance the capacity of the State to create an enabling environment for breastfeeding women (Engesveen 2005). In the context of human rights, the State as the duty bearer is bound to create the enabling

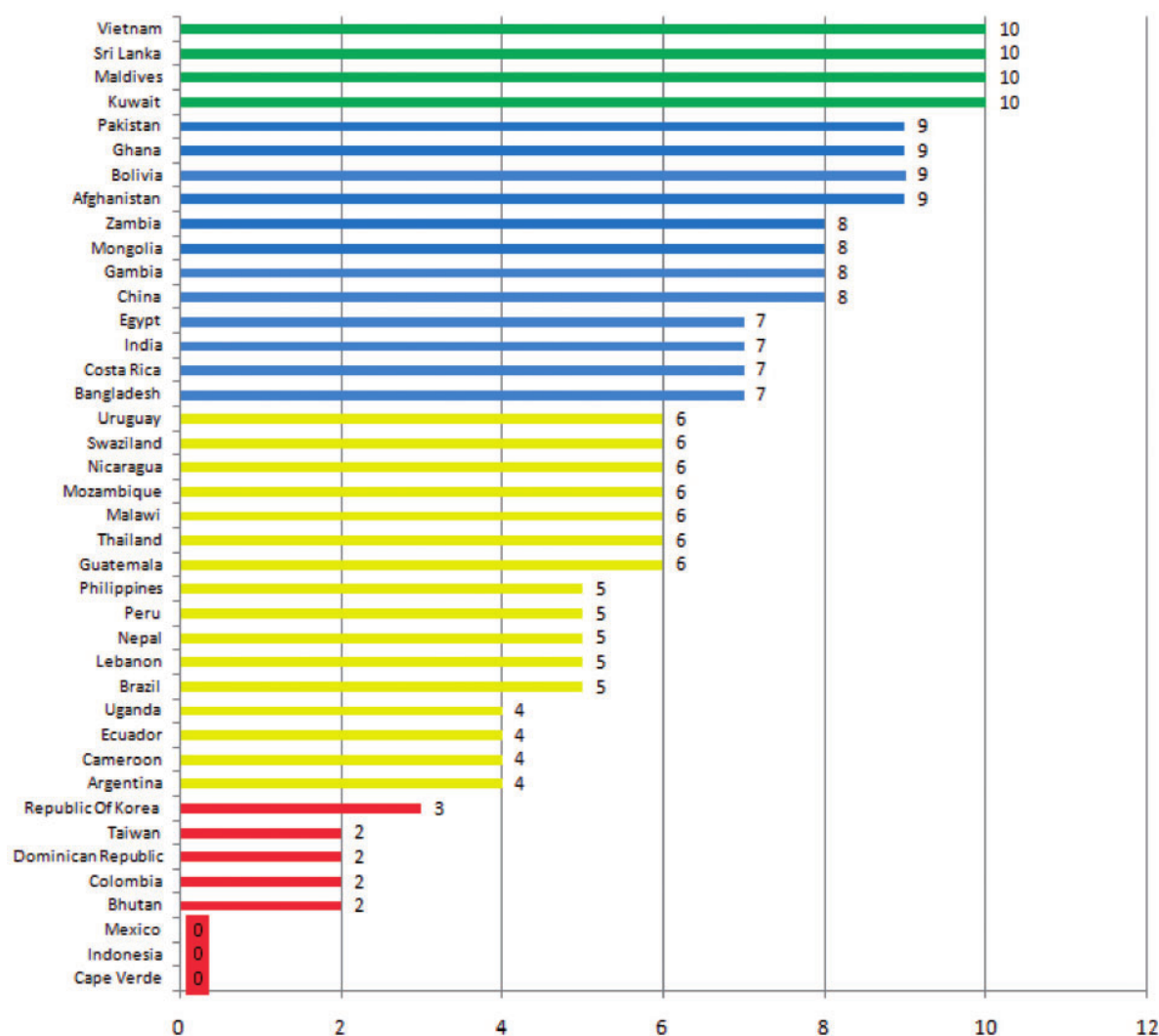


Figure 12 The state of monitoring and evaluation in 40 countries on a scale of 0–10

environment for a woman to optimally feed, including breast-feed, her child. States thus need to ensure that they take action to create this enabling environment, ratifying the ILO Convention, creating national legislation for maternity protection and mobilizing sufficient resources to implement it.

The WBTi assessment shows that maternity protection is not a priority in many countries. This is in spite of the fact that in order to exclusively breastfeed an infant on demand, the mother and infant have to remain in close proximity for the first 6 months of life. Women can also be supported to exclusively breastfeed by having access to lactation rooms where they can safely express and store breastmilk (Fein *et al.* 2008; Payne *et al.* 2010; Weber *et al.* 2011). Such breastfeeding friendly workplaces are likely to be very important in helping women to maintain exclusive and continued breastfeeding, and are more likely to be achieved than on-site daycare. While women working in the formal sector do receive some limited form of protection, women working in the informal and agricultural sectors and those who are self-employed face the

most severe challenges in feeding their infants optimally. There is little support for such women in most Latin American and African countries. India offers a vivid example of how these women get left out of policy and programmes, as well as legislation. It would be ideal if all women could be financially compensated for devoting six months to exclusive breastfeeding (Gupta 2008).

The Global Strategy for IYCF highlights the importance of correct policy and programme work in the area of infant feeding and HIV for achieving the targets. The UN Framework for priority action on infant feeding and HIV activities accords the highest priority to the development of a comprehensive national infant and young child policy that includes HIV and infant feeding. The assessment also indicates that having a policy on infant feeding and HIV can pay good dividends. Various factors like risk of stigmatization, financial cost of replacement feeding with the risk of getting pregnant again and increased risk of HIV transmission when doing mixed feeding have been associated with HIV-positive women (Coovadia *et al.*

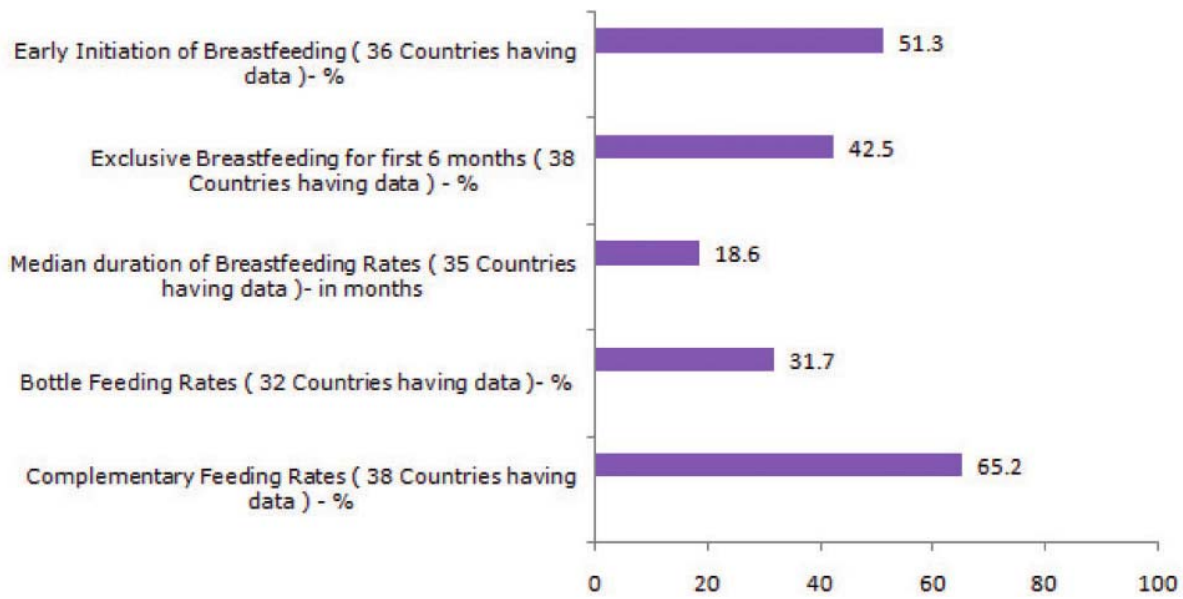


Figure 13 Average of each infant and young child feeding practice indicator from among countries where this data were available and reported

Table 3 Impact of the WBTi assessment tool in selected South Asian countries

Countries	Impact of WBTi tool
Afghanistan	<ul style="list-style-type: none"> • Data on infant and young child feeding (IYCF) practices collected which did not exist earlier. • Implemented several programmes in the health system to mainstream counselling on breastfeeding. • Started conducting training on breastfeeding counselling and complementary feeding for health care providers. • The International Code of Marketing of Breastmilk Substitutes became a regulation under the Ministry of Public Health.
Bhutan	<ul style="list-style-type: none"> • IYCF indicators introduced into the National Nutrition Survey, which made available the data on IYCF practices collected. • Developed a national strategy and policy on IYCF.
India	<ul style="list-style-type: none"> • Increased maternity leave for women by central government. • Financial maternity benefits to pregnant and lactating women.
Maldives	<ul style="list-style-type: none"> • Data on IYCF practices collected which did not exist earlier.
Nepal	<ul style="list-style-type: none"> • Development of National Nutrition Policy and Strategy by the Government of Nepal, international non-governmental organizations (NGOs) and local NGOs working in Nepal in support of IYCF. • Government of Nepal with support from various international NGOs and local NGOs started carrying out training of different level of health professionals on IYCF.
Pakistan	<ul style="list-style-type: none"> • Government has notified the implementation of Breastfeeding Law (Ordinance) with rules and regulations. • Developed curriculum/manual on IYCF training for community health workers.

2007). WHO’s guidelines on infant feeding and HIV recognize the important impact of antiretrovirals (ARVs) during the breastfeeding period, and recommend that national authorities in each country decide which infant feeding practice, i.e. breastfeeding with ARV or avoidance of all breastfeeding and feeding with a suitable replacement food, should be promoted and supported by their maternal and child health services (WHO 2010).

During emergencies, women are extremely vulnerable to stress, and this affects their ability to breastfeed successfully, especially if there is no designated space for child care and breastfeeding. Supporting breastfeeding during emergencies is particularly important as women bear the brunt of the responsibility for caring for the family during and after emergencies, and this may interfere with infant feeding. Though some progress has been made internationally to develop guidelines for infant feeding in emergencies (WHO

2007), there is a need to translate them into practice at national level. Some underlying reasons behind failure to implement the policies could be the weak institutionalization of policies, the massive quantities of unsolicited donations of infant-feeding products, the absence of monitoring systems and inadequate co-ordination mechanisms (Borrel *et al.* 2001). These facts have been duly emphasized in a few recent reports and studies (UNICEF 2010; Lutter *et al.* 2011).

Impact of WBTi assessments in taking remedial action

The WBTi assessment underlines the need for political will to mainstream breastfeeding and IYCF policy and programmes in national action. This political will has to translate into action on several fronts to bring a change. Scoring and colour coding have been effective tools in building this political will, as in the

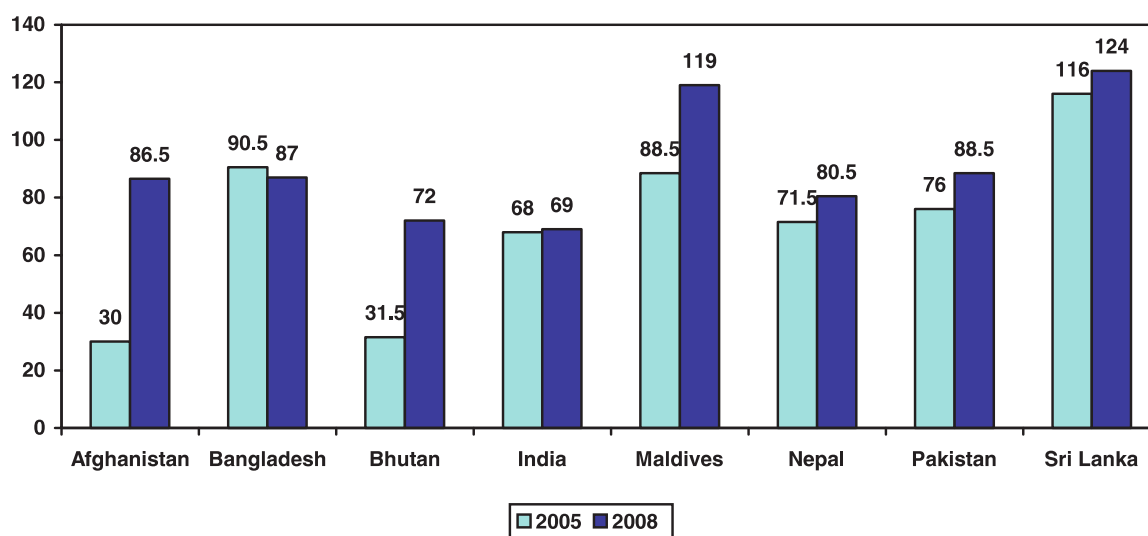


Figure 14 Comparison of WBTi scores for 2005 and 2008 in South Asian countries (total score 150)

case of Bhutan and Afghanistan, which were in the red band in the 2005–06 assessment, and which moved upwards in the reassessment in 2009–10. Political will is also apparent in the remedial actions taken by several countries after analyzing results of the assessment.

The process of WBTi assessment brings together several agencies that are concerned with child survival, including civil society, UN organizations and professional bodies. In almost two-thirds of the 40 countries studied, the government ministries and related departments have been actively involved, often leading the assessment. This has helped to reach a consensus on what actions need to be taken on a priority basis.

Based on the assessment, many countries have already initiated actions. Recommendations from various countries include setting up of national breastfeeding committees, establishing co-ordination mechanisms between various sectors that impact IYCF practices such as labour, health and nutrition, and making budgetary provisions available to enhance breastfeeding rates. A total of 373 stakeholders were involved from 40 countries for the assessment exercise and consensus building.

After the first assessment in South Asian countries in 2005–06, report cards on the status of IYCF were used by IBFAN groups for effective advocacy with the programme managers and policy makers. Afghanistan and Bhutan generated national data on IYCF practices between 2005 and 2008–09. After the 2008–09 assessments, the Government of Afghanistan adopted the International Code and organized training for its implementation. Bhutan has developed national IYCF policies and plans of action. Breastfeeding advocates in Pakistan successfully used the findings to create a broad-based support for breastfeeding rules and regulations among policy makers, civil society, international and local non-governmental organizations (NGOs), helping the Ministry of Health to adopt them. Table 3 lists the impact of the WBTi in some South Asian countries.

The national nutrition agency of Gambia validated a new nutrition policy which was developed after the WBTi exercise

and the country also enacted a women's bill that incorporated issues of maternity protection. In Mongolia, the selection criteria for BFHI were updated after the WBTi and BFHI certification was included into the hospital accreditation system. In Uganda during the finalization of the IYCF policy guidelines development, the information generated from the WBTi was used. The WBTi process helped the Philippines in enacting a new law on expanded breastfeeding promotion that enables working women to breastfeed at workplaces.

The WBTi helps not just in identifying gaps but also in knowing what action needs to be taken to bridge them. The South Asian countries have documented a list of gaps using the WBTi as a lens, informing them where they stand on the Global Strategy. Figure 14 shows the comparative WBTi scores of 2005 and 2008 in South Asia.

Conclusion

The WBTi is a competent tool for assessing what countries are doing to give effect to policy and programmes in the 10 areas of action identified in the Global Strategy for Infant and Young Child Feeding. The WBTi findings point out specific gaps in the policy environment and its implementation, which need to be addressed in action plans and stimulate such action. The tool further assesses how well co-ordinated national action is towards protecting, promoting and supporting breastfeeding. Reassessment every 3 years monitors a nation's progress towards universalizing optimal IYCF practices, and shows which actions have worked successfully and which need further strengthening. The WBTi assessment process, being participatory, brings together various stakeholders to assess the situation on policy and programmes on IYCF and identify gaps so as to create consensus for recommendations for improving programmes and policies. Countries can use the tool as a lens through which to examine the gaps and develop a plan with specific objectives and a well-defined budget in order to bridge the gaps identified.

Acknowledgements

We would like to thank all the Regional Coordinators and Country Representatives of IBFAN. We would also like to thank all the country co-ordinators: Zarmina Safi, Fernando Vallone, Aklima Parvin, Ugyen Zangmo, Micaela Mujica, Rodrigo Vianna, Milene Cristina, Zhang Shuyi, Patricia Amezcuita, Clavel Sanchez, Rocio Caicedo, Bakary Jallow, Wilhelmina Okwabi, Nia Umar, Kim Jaiok, Janet Gutta, Nasheed Hanan Ahmed, Marcos Arana, Gochoo Soyolgerel, Cristina Paulo Tembe, Prakash Shreshtha, Ninoska Cruz, Zareef Khan, Ana Vazquez, Ines Fernandez, Seelawathie Ebert, Leh-Chi Chwang, Gerald Onyango, Florencia Cerruti, Bui Hong Van, Raider Mugode, S.K. Roy, Phumzile Hlatshwayo, Yupayong Hangchaovanich, Nahed Ismail, Ghada Sayed, Ali El Zein, Mona Al Somaie Thulani Maphosa and Homayoun Ludin. We acknowledge and thank Beena Bhatt, LR Gupta, Amit Dahiya, Veena Rawat, Preeti Gupta, Yogender Rawat, Vinay Kumar and Vijay Pal for their efforts.

Funding

This work was supported by Swedish International Development Agency and Norwegian Agency for Development Cooperation.

Conflict of interest

None declared.

References

- Aidam BA, Perez-Escamilla R, Lartey A. 2005. Lactation counseling increases exclusive breast-feeding rates in Ghana. *Journal of Nutrition* **135**: 1691–95.
- Allain A, Kean Y. 2008. The youngest market, the baby food peddlers undermine breastfeeding. *Multinational Monitor*. Online at: <http://www.thefreelibrary.com/The%20youngest%20market:%20baby%20food%20peddlers%20undermine%20breastfeeding.-a0182081205>, accessed September 2011.
- Anderson AK, Damio G, Young S *et al.* 2005. A randomized trial assessing the efficacy of peer counseling on exclusive breastfeeding in a predominantly Latina low-income community. *Archives of Pediatrics & Adolescent Medicine* **159**: 836–41.
- Bhandari N, Bahl R, Mazumdar S *et al.* 2003. Effect of community-based promotion of exclusive breastfeeding on diarrhoeal illness and growth: a cluster randomized controlled trial. *The Lancet* **361**: 1418–23.
- Bhutta ZA, Ahmed T, Black RE *et al.* 2008. What works? Interventions for maternal and child undernutrition and survival. *The Lancet* **371**: 417–40.
- Borrel A, Taylor A, McGrath M *et al.* 2001. From policy to practice: challenges in infant feeding in emergencies during the Balkan crisis. *Disasters* **25**: 149–63.
- Bryce J, Coitinho D, Darnton-Hill I, Pelletier D, Pinstrup-Andersen P. 2008. Maternal and child undernutrition: effective action at national level. *The Lancet* **371**: 510–26.
- Chapman DJ, Damio G, Young S *et al.* 2004. Effectiveness of breastfeeding peer counseling in a low-income, predominantly Latina population: a randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine* **158**: 897–902.
- Coovadia HM, Rollins NC, Bland RM *et al.* 2007. Mother-to-child transmission of HIV-1 infection during exclusive breastfeeding in the first 6 months of life: an intervention cohort study. *The Lancet* **369**: 1107–16.
- Darmstadt GL, Bhutta ZA, Cousens S *et al.* 2005. Evidence-based, cost-effective interventions: how many newborn babies can we save? *The Lancet* **365**: 977–88.
- de Oliveira MC, Camacho LAB, Tedstone AE. 2001. Extending breastfeeding duration through primary care: a systemic review of prenatal and postnatal interventions. *Journal of Human Lactation* **17**: 326–43.
- Engesveen K. 2005. Strategies for realizing human rights to food, health and care for infants and young children in support of the Millennium Development Goals: role and capacity analysis of responsible actors in relation to breastfeeding in the Maldives. *SCN News* **30**: 56–66.
- Fein SB, Mandal B, Roa BE. 2008. Success of strategies for combining employment and breastfeeding. *Pediatrics* **122**(Suppl. 2):56–62.
- Gupta A. 2008. International obligations for infants' right to food. In: Kent George (ed). *Global Obligations for the Right to Food*. New York: Rowman & Littlefield Publishers, Inc, pp. 121–44.
- Horton R. 2008. Maternal and child undernutrition: an urgent opportunity. *The Lancet* **371**: 179.
- Imdad A, Yakoob MY, Bhutta ZA. 2011. Effect of breastfeeding promotion interventions on breastfeeding rates, with special focus on developing countries. *BMC Public Health* **11**(Suppl. 3):S24.
- International Code Documentation Centre (ICDC). 2010. Executive summary. In: *Breaking the Rules, Stretching the Rules 2010*. Online at: http://www.ibfan.org/art/BTR_2010-ExecSummary%28final%29.pdf, accessed August 2011.
- Jones G, Steketee RW, Black RE *et al.* 2003. How many child deaths can we prevent this year? *The Lancet* **362**: 65–71.
- Kramer MS, Chalmers B, Hodnett ED *et al.* 2001. Promotion of Breastfeeding Intervention Trial (PROBIT): a randomized trial in the Republic of Belarus. *Journal of American Medical Association* **285**: 413–20.
- Lutter CK, Escamilla RP, Segall A *et al.* 1997. The effectiveness of a hospital-based program to promote exclusive breast-feeding among low-income women in Brazil. *Journal of Public Health* **87**: 659–63.
- Lutter CK, Chaparro CM, Grummer-Strawn L *et al.* 2011. Backsliding on a key health investment in Latin America and the Caribbean: the case of breastfeeding promotion. *American Journal of Public Health* **101**: 2130–36.
- Payne D, Nicholls DA. 2010. Managing breastfeeding and work: a Faucauldian secondary analysis. *Journal of Advanced Nursing* **66**: 1810–18.
- Pugin E, Valdes V, Labbok MH *et al.* 1996. Does prenatal breastfeeding skills group education increase the effectiveness of a comprehensive breastfeeding promotion program? *Journal of Human Lactation* **12**: 15–19.
- Rudan I, Boschi-Pinto C, Biloglav Z *et al.* 2008. Epidemiology and etiology of childhood pneumonia. *Bulletin of the World Health Organization* **86**: 321–416.
- Tylleskar T, Jackson D, Meda N *et al.* 2011. Exclusive-breastfeeding promotion by peer counselors in sub-Saharan Africa (PROMISE-EBF): a cluster-randomised trial. *The Lancet* **378**: 420–27.
- UN Secretary General. 2010. Global Strategy for Women's and Children's Health. Online at: http://www.who.int/pmnch/topics/maternal/201009_globalstrategy_wch/en/index.html, accessed September 2011.
- UNICEF. 2009. *Tracking Progress on Child and Maternal Malnutrition: a survival and development priority*. Online at: http://www.unicef.pt/docs/Progress_on_Child_and_Maternal_Nutrition_EN_110309.pdf, accessed July 2011.

- UNICEF. 2010. Infant and Young Child Feeding Programme Review: Consolidated report of six-country breastfeeding programmes. Online at: http://www.unicef.org/nutrition/files/IYCF_Booklet_April_2010_Web.pdf, accessed January 2012.
- Valdes V, Perez A, Labbok M *et al.* 1993. The Impact of a hospital and clinic-based breastfeeding promotion programme in a middle class urban environment. *Journal of Tropical Pediatrics* **39**: 142–51.
- Victora CG, Adair L, Fall C *et al.* 2008. Maternal and child under-nutrition: consequences for adult health and human capital. *The Lancet* **371**: 340–57.
- Weber D, Janson A, Nolan M *et al.* 2011. Female employees' perception of organisational support to breastfeeding at work: findings from an Australian health service workplace. *International Breastfeeding Journal* **6**: 19–25.
- WHO/UNICEF. 2002. *Global Strategy for Infant and Young Child Feeding*. Geneva: World Health Organization. Online at: http://www.who.int/nutrition/publications/gs_infant_feeding_text_eng.pdf, accessed June 2011.
- WHO. 2003. *Infant and Young Child Feeding: a tool for assessing national practices, policies and programmes*. Geneva: World Health Organization. Online at: <http://www.who.int/nutrition/publications/infantfeeding/9241562544/en/index.html>, accessed June 2011.
- WHO. 2007. Infant and young child feeding in emergencies. Operational guidance for emergency relief staff and programme managers. Version 2.1. Geneva: World Health Organization. Online at: http://www.who.int/nutrition/publications/emergencies/operational_guidance/en/index.html, accessed June 2011.
- WHO. 2009. Diarrhoeal disease. Fact sheet no. 330. Geneva: World Health Organization. Online at: <http://www.who.int/mediacentre/factsheets/fs330/en/index.html>, accessed April 2011.
- WHO. 2011. *World Health Statistics 2009*. Geneva: World Health Organization. Online at: http://www.who.int/whosis/whostat/EN_WHS2011_Full.pdf, accessed June 2012.
- WHO. 2010. *Guidelines on HIV and Infant Feeding: Principles and recommendations for infant feeding in the context of HIV and a summary of evidence*. Geneva: World Health Organization. Online at: http://www.who.int/maternal_child_adolescent/documents/9789241599535/en/, accessed July 2011.