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Editorial

Ensuring optimal breastfeeding and improvements in complementary feeding to improve infant and young child nutrition in developing countries

There is universal acceptance that ensuring optimal infant and young child feeding practices is a critical global health goal if we are to significantly impact and sustainably address infant and young child mortality and malnutrition (PAHO/WHO 2003; WHO & UNICEF 2003; Black *et al*. 2008). The extensively quoted 2008 Lancet series on Maternal and Child Undernutrition highlighted the extent of the tragedy, with an estimated 112 million children under 5 years being underweight and a further 178 million suffering from stunting. In total, over one-third of under-five mortality is caused by undernutrition, in which poor breastfeeding practices and inadequate complementary feeding play a major role. Poor nutrition at the start of life is documented to retard the economic and social development of individuals and nations (Black *et al*. 2008; Victora *et al*. 2008). The Lancet series clearly points the way forward in the Executive Summary, 'Although undernutrition and poverty are often intertwined and long-term solutions to eradicate poverty and undernutrition must be linked, there are proven steps that can be taken now to alleviate the immediate effects of maternal and child undernutrition' (The Lancet 2008).

With the deadline for attaining the Millennium Development Goals (MDGs) now looming, nutrition during the critical 1000 days (from conception till the child's second birthday) has been placed under the spotlight and the negative impact of poverty and undernutrition on the growing prevalence of noncommunicable diseases is also gaining visibility on the global health and development agenda (Abegunde *et al*. 2007; Victora *et al*. 2008; UNICEF 2012). The developing world and countries in transition, in particular in sub-Saharan Africa and south-central Asia, carry the greatest burden and are facing extreme pressure to act now and to act in a comprehensive manner.

The good news is that there is agreement as to what infant and young child feeding (IYCF) interventions need to be implemented and scaled-up. Suboptimal breastfeeding and inadequate complementary feeding are the major concerns (Table 1). Despite the clear recommendation of exclusive breastfeeding for the first 6 months of life and continued breastfeeding together with appropriate and adequate (quantity and quality) complementary feeding through the second year of life, the statistics show we are failing dismally (Black *et al*. 2008; Lutter *et al*. 2011). Both researchers and international standard setting bodies state the need to implement strategies that address both exclusive and continued breastfeeding and complementary feeding practices, which together make up the concept of optimal infant and young child feeding practices, if we are to improve the outcome of the first 1000 days for millions of children.

Poor IYCF results in growth faltering and addressing this is the cornerstone of successful interventions. According to the UNICEF Infant and Young Child feeding Programming guide 'After birth, a child's ability to achieve the standards in growth is determined by the adequacy of dietary intake (which depends on infant and young child feeding and care practices and food security), as well as exposure to disease'. (UNICEF 2012)

In the WHO/UNICEF Global Strategy on Infant and Young Child Feeding it is clear 'Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants'. (WHO & UNICEF 2003). So although there is only a single message to give mothers regarding feeding during the first six months, 'Practice exclusive breastfeeding from birth to 6 months of age' (PAHO/WHO 2003), the fact that it is not being practiced (Black *et al*. 2008) indicates that there are many real and perceived barriers to the message being heard and attainment. In addition the science shows that there are other critically important associated messages such as early initiation of breastfeeding and the meaning of the word exclusive. However in terms of nutritional adequacy,

Table 1. Global recommendations on infant and young child feeding

The Lancet series on Maternal and Child Undernutrition (Bhutta *et al*. 2008):
- Of available interventions, counselling about breastfeeding and fortification or supplementation with vitamin A and zinc has the greatest potential to reduce the burden of child morbidity and mortality.
- Improvement of complementary feeding through strategies such as counselling about nutrition for food-secure populations and nutrition counselling, food supplements, conditional cash transfers or a combination of these, in food-insecure populations could substantially reduce stunting and related burden of disease.

World Bank – Proven interventions to reduce child mortality, improve nutrition outcomes and protect human capital (Horton *et al*. 2009):
- Behaviour change interventions that include promotion of breastfeeding, appropriate complementary feeding practices (but excluding provision of food), and proper hygiene, specifically hand washing.

Pan American Health Organization (PAHO) – Guiding Principles for Complementary Feeding of the Breastfed Child (PAHO/WHO 2003):
- Practice exclusive breastfeeding from birth to 6 months of age, and introduce complementary foods at 6 months of age (180 days) while continuing to breastfeed.
- Continue frequent, on-demand breastfeeding until 2 years of age or beyond.
- Practice responsive feeding, applying the principles of psychosocial care.
- Practice good hygiene and proper food handling.
- Start at 6 months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding.
- Gradually increased food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities.
- Increase the number of times that the child is fed complementary foods as he/she gets older.
- Feed a variety of foods to ensure that nutrient needs are met.
- Use fortified complementary foods or vitamin-mineral supplements for the infant, as needed.
- Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetising, favourite foods. After illness, give food more often than usual and encourage the child to eat more.

WHO/UNICEF Global Strategy for Infant and Young Child Feeding (WHO & UNICEF 2003):
- As a global public health recommendation, infants should be exclusively breastfed for the first 6 months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional needs, infants should receive safe and nutritionally adequate complementary foods while breastfeeding continues for up to 2 years of age or beyond.

Scaling Up Nutrition (SUN) – Direct nutrition interventions to prevent and treat undernutrition (SUN 2010a):
- Promoting good nutritional practices:
  - Breastfeeding.
  - Complementary feeding for infants after the age of 6 months.
  - Improved hygiene practices including hand washing.

the nutrient needs of full-term, normal birth weight infants typically can be met by human milk alone for the first 6 months (WHO & UNICEF 2003).

The same cannot be said for complementary feeding – there cannot be a single message as no one food can adequately provide all that the young child requires and other factors such as timing, food safety and proper feeding practices come into play. Infants are thus particularly vulnerable during the transition period when complementary feeding begins (WHO & UNICEF 2003).

After six months of age breast milk, although it continues to be an important source of nutrients, needs to be complemented by other foods in order to meet all of a child's nutritional requirements (UNICEF 2012). The research of Victora *et al*. (2010), based on anthropometric data from low-income countries, confirms that the levels of undernutrition increase markedly from 3 to 18–24 months of age. Although exposure to disease has a role to play and is linked to nutritional status, adequacy of dietary intake is a critical issue.

From 6 months of age children have high nutritional needs for their rapid growth, and together with continued breastfeeding appropriate complementary feeding is essential to provide key nutrients particularly iron and other micronutrients and essential fatty acids. Inadequate complementary feeding lacking in both quality and quantity can restrict growth and jeopardise child survival and development. Not to be neglected is the important role of adequate cognitive stimulation. Continued breastfeeding and responsive feeding provide constant positive interactions between mother and child which contribute to the

emotional and psychological development of infants (Horta *et al*. 2007).

The messaging around adequate and appropriate complementary feeding becomes more complex and is dependent on numerous factors that have to be assessed at a country and even community level. In the WHO/UNICEF Global Strategy for Infant and Young Child Feeding they acknowledge that 'No single intervention or group can succeed in meeting the challenge. . .' (WHO & UNICEF 2003). In addition to the cornerstone of accurate information and skilled support from the family, community and health care system, the strategy recognises that diversified approaches are required to ensure access to foods that will adequately meet nutritional needs:

- The use of home- and community-based technologies to enhance nutrient density, bioavailability and the micronutrient content of local foods.
- Ensuring that mothers make the widest possible use of indigenous/local foods.
- The role of the agriculture sector in ensuring that suitable foods for use in complementary feeding are produced, readily available and affordable.
- Availability of low-cost complementary foods, prepared with locally available ingredients and using suitable small-scale production technologies in community settings.
- The option of industrially processed complementary foods for mothers who have the means to buy them and the knowledge and facilities to prepare and feed them safely.
- The value of food fortification and universal or targeted nutrient supplementation (WHO & UNICEF 2003).

There is not a one-fits-all or even an either/or situation when it comes to appropriate complementary feeding. There are different access routes to obtaining the appropriate complementary diet and this makes the provision of and access to truthful, objective, consistent and complete information about appropriate feeding practices and products crucial.

Whilst the enactment, at a country level, of both the Baby Friendly Hospital Initiative and the International Code of Marketing of Breastmilk Substitutes has to be encouraged in order to protect and promote breastfeeding, a different approach is needed for commercially produced complementary foods and food supplements. These products are recognised as having a role to play and increasingly specially formulated products that support continued breastfeeding and the local diet while filling the documented nutritional gap are becoming available. The UNICEF Infant and Young Child Feeding Programming Guide (2012) summarises it eloquently 'For complementary feeding, education and counselling on improved use of locally available foods is the cornerstone of interventions in all contexts. Where the main nutritional problems are micronutrient deficiencies and locally available foods cannot provide sufficient micronutrients (which is most often the case for iron), supplementation with multiple micronutrients may be recommended in addition to optimising use of locally available foods. In food-insecure populations with significant nutrient deficiencies and where locally available foods are inadequate in macro- and micronutrients, additional components such as fortified complementary foods and/or lipid-based nutrient supplements may be needed to fill nutrient gaps'.

Bryce *et al*., in their paper 'Maternal and child undernutrition: effective action at national level' from the Lancet Series on Maternal and Child Undernutrition write 'The legacy of efforts by food companies to displace breast milk with marketed substitutes for children less than 6 months of age . . . is a lingering distrust of the private sector' (Bryce *et al*. 2008). This distrust has resulted in a fear that allowing commercialised complementary foods and food supplements to be marketed or allowing any market-based approach in the arena of IYCF, might result in a negative impacting on breastfeeding. This does not need to be the case. The power of the private sector to contribute to the fight against undernutrition at country level cannot be ignored and should be harnessed for the good (Bryce *et al*. 2008). The Roadmap for Scaling Up Nutrition (SUN) also recognises the need for the involvement of a broad range of stakeholders including the private sector 'based on principles that seek to limit any conflicts of interest, foster partnerships and create shared value through concerted action' (SUN

2010b). It is no longer a question of if public–private partnerships should happen, but rather a discussion around the rules of engagement.

Appropriate private sector involvement in the IYCF arena requires the existence and enforcement of clear and agreed upon standards for engagement – such standards must define appropriate composition as well as marketing practices. The document 'Using the Code of Marketing of Breastmilk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices' (Quinn *et al*. 2010) aims to ensure optimal breastfeeding promotion in addition to complementary feeding and has begun the discussion on appropriate marketing of complementary foods so as to ensure the protection and promotion of optimal infant feeding practices. While the authors acknowledge this as being 'a "first step" in a longer and more formal, future process which will be guided by evidence on what constitutes "appropriate" and "non-appropriate" marketing of complementary foods and supplement', it is a much needed document. In addition, the work of the Codex Alimentarius led by Ghana on the revision of the Guidelines on Formulated Supplementary Foods for Older Infants and Young Children (CAC/GL 8-1991) goes a long way in improving the composition of these foods. Other valuable, although more broadly focused, documents include the WHO/UNICEF Global Strategy for Infant and Young Child Feeding, the PAHO/WHO Guiding Principles for Complementary Feeding of the Breastfed Child, the WHO Guiding Principles for Feeding Non-breastfed Children 6–24 months of age (WHO 2005) and, the UNICEF Infant and Young Child Feeding Programme Guide. They highlight the need for International standard setting organisations to take the lead on giving specific advice on not only principles and interventions, but also on composition and appropriate and non-appropriate practices especially as many of the countries most in need have limited resources. In addition, a harmonised global approach, which assesses and manages the risk of undue corporate influence on public policy and the risk of distorting the global nutrition agenda (Bryce *et al*. 2008) is preferable so as to ensure that all stakeholders are engaged and jointly work towards an integrated approach to infant and young child feeding that not only protects and promotes breastfeeding, but also addresses adequate complementary feeding. Only then will the beneficiaries of our interventions be the world's children.

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Conflicts of interest

JB Consultancy works with a wide range of clients from the food industry to humanitarian organisations, civil society groups and non-governmental organisations. JB Consultancy will however only provide services to manufacturers/distributors of breast milk substitutes, bottles and/or teats with the sole purpose of assisting to improve their compliance with the Code in an effort to protect and promote optimal infant and young child feeding practices. Should such organisations indicate that they are not willing to take the necessary actions recommended by JB Consultancy to rectify/prevent Code violations, JB Consultancy will desist from providing further services until such time as these actions are taken. JB Consultancy supports exclusive breastfeeding for the first 6 months of life, followed by the introduction of safe and appropriate complementary foods together with continued breastfeeding to at least 2 years of age.

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