

## **Infant and young child nutrition**

### **Report by the Secretariat**

1. This report provides information on the implementation of the global strategy for infant and young child feeding; the status of national measures to give effect to the International Code of Marketing of Breast-milk Substitutes; complementary foods; WHO Child Growth Standards; types of malnutrition; and childhood obesity.
2. Achieving the health-related Millennium Development Goals and targets depends on reducing malnutrition, which is associated with about one third of the nine million deaths among children under five annually.<sup>1</sup> About 112 million children worldwide are underweight and 178 million children under five are stunted; 90% of these children live in 36 countries. Every year an estimated 13 million children are born with intrauterine growth restriction.<sup>2</sup> The double burden of malnutrition (first, undernutrition, and micronutrient deficiencies; and, secondly, overweight/obesity) is an increasing public health problem. The direct and indirect costs of malnutrition are considerable but have yet to be fully recognized.
3. Malnutrition in children is frequently related to inappropriate infant and young child feeding practices. Globally, only 34.6% of infants less than six months of age are exclusively breastfed, with the figure ranging from 43.2% in the South-East Asia Region to 17.7% in the European Region.<sup>2</sup> Progress has been uneven and, globally, exclusive breastfeeding rates are stagnating. In the past 10 years, some countries have achieved remarkable increases of 20% or more in rates of exclusive breastfeeding. In Cambodia, the implementation of a comprehensive policy, including communication, training of health workers, pre-service curriculum development and support for the Baby-friendly Hospital Initiative and Baby-friendly Community Initiative has led to a 50% increase in the exclusive breastfeeding rate in only five years. Unfortunately, in some other countries the rates have dropped, in some cases by more than 10%; low coverage of activities, a non-comprehensive approach, poor implementation of appropriate policies and legislation, weak health system capacity, and absence of performance monitoring are contributing factors.
4. Complementary feeding practices are often far from optimal, involving foods of poor quality and limited variety that are not hygienically prepared, and that are given in too small amounts or not frequently enough.

---

<sup>1</sup> World Health Statistics 2009.

<sup>2</sup> Black RE et al. Maternal and child undernutrition: global and regional exposures and health consequences. *Lancet*. 2008, **371**(9608): 243–260.

5. Growth failure during intrauterine life, and poor nutrition in the first two years of life have critical consequences throughout the life-course. Type 2 diabetes and hypertension are more frequent in individuals born with low weight, while adults who were breastfed as babies often have lower blood pressure and lower cholesterol levels, as well as lower rates of overweight, obesity and type 2 diabetes.<sup>1</sup>

## **IMPLEMENTATION OF THE GLOBAL STRATEGY FOR INFANT AND YOUNG CHILD FEEDING**

6. The global strategy for infant and young child feeding,<sup>2</sup> together with its companion assessment tool<sup>3</sup> and planning guide,<sup>4</sup> has triggered increased efforts to improve feeding practices and most Member States have taken steps to implement the strategy's nine operational targets. Infant and young child nutrition requires promotion both at community level and in the health service. Implementation on a large scale can change breastfeeding practices in a fairly short time. For example, in Madagascar, one year after programme implementation, sizeable changes were achieved in programme areas with the exclusive breastfeeding rate almost doubling, from 46% to 83%.

7. In the African Region, more than 32 countries have developed national strategies and implementation plans. Elsewhere, the global strategy has also been adopted as an integral part of strategies for child survival (Cambodia, China, Lao People's Democratic Republic, Mongolia, Papua New Guinea, Philippines and Viet Nam), child nutrition (Bolivia (Plurinational State of) and Peru), and newborn survival (India).

8. In order to assist in the development of national strategies and action plans, WHO and partners have undertaken a landscape analysis on countries' readiness to accelerate action in nutrition, and are currently undertaking a global review of policy implementation. WHO is preparing an electronic library for nutrition programme guidance in order to provide comprehensive advice in the choice of effective interventions and priority actions to improve infant nutrition and growth.

### **Strengthening the health system**

9. The Baby-friendly Hospital Initiative has grown and more than 20 000 hospitals have been designated in 156 countries around the world over the past 15 years. In 36 industrialized countries, 37% of births take place in baby-friendly health facilities.

10. The Initiative's criteria have been updated to reflect new evidence, including the importance of early initiation of exclusive breastfeeding for child survival. The criteria are now used as quality-of-care indicators and the baby-friendly designation has been made a requirement for hospital accreditation.

---

<sup>1</sup> Horta BL et al. *Evidence of long-term effects of breastfeeding: systematic reviews and meta-analysis*. Geneva, World Health Organization, 2007.

<sup>2</sup> Document WHA55/2002/REC/1, Annex 2.

<sup>3</sup> *Infant and young child feeding: a tool for assessing national practices, policies and programmes*. Geneva, World Health Organization, 2003.

<sup>4</sup> *Planning guide for national implementation of the global strategy for infant and young child feeding*. Geneva, World Health Organization, 2007.

11. Many countries have expanded pre-service and in-service training of health professionals in counselling on infant and young child feeding. WHO's integrated course on infant and young child feeding is being implemented in 42 countries and exists in several languages;<sup>1</sup> rosters of regional master trainers are available from headquarters and the regional offices.

12. WHO is supporting capacity building through the preparation of teaching materials.<sup>2</sup> The acceptable medical reasons for use of breast-milk substitutes have been updated for use in the Initiative, in the pre- and in-service training of health professionals.<sup>3</sup>

13. Nutrition counselling is already one of the key components of WHO's strategy for the integrated management of childhood illnesses. However, a package of nutrition actions to be delivered by the health sector, particularly at the primary care level, is also required. Greater emphasis should be placed on maternal nutrition, and consideration given to adopting a life-course approach in the delivery of nutrition interventions.

### **Community support**

14. In order to feed their children appropriately, carers need support, not only in the health system but also in the community. There is ample evidence that interventions delivered at home and in the community can have a major effect in improving infant feeding practices.

15. In 2008, WHO and partners published the results of a review of effective approaches to engage communities for the better protection, promotion and support of infant and young child feeding.<sup>4</sup> WHO and UNICEF are also finalizing a package of training materials on caring for newborn infants and children at the community level that includes modules to support appropriate infant and young child feeding; this package is due to be published at the beginning of 2010.

### **INTERNATIONAL CODE OF MARKETING OF BREAST-MILK SUBSTITUTES**

16. Pursuant to Article 11.6 of the Code, Member States submit information annually to the Director-General on action taken to give effect to the Code's principles and aim. In preparation for the present Health Assembly, 92 out of a total of 193 Member States submitted information to the Secretariat.<sup>5</sup> Fifty-six Member States reported having enacted legislation on the Code; 16 indicated that only voluntary measures had been taken; and 20 provided insufficient information or had no measures in place.

17. Among the 56 Member States that have enacted legislation, most have included provisions which prohibit the promotion of products designated under the law to the general public, health

---

<sup>1</sup> Chinese, French, Portuguese, Spanish; a Russian version will be ready by the end of 2010.

<sup>2</sup> *Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals*. Geneva, World Health Organization, 2009.

<sup>3</sup> Document WHO/NMH/NMD/09.01–WHO/FCH/CAH/09.01.

<sup>4</sup> *Learning from large-scale community based programmes to improve breastfeeding practices*. Geneva, World Health Organization, 2008.

<sup>5</sup> Figures concern submissions received from Member States up to 26 February 2010. Information submitted after this date will be made available during the Health Assembly.

workers and in health-care facilities. Most Member States have adopted legal provisions ensuring strict labelling requirements, as stipulated in the Code and subsequent relevant Health Assembly resolutions, although fewer provisions seem to be included that ensure that product labels carry warnings about the risks of contamination, and that ban marketing practices which involve making nutrition and health claims for breast-milk substitutes.

18. Only 37 out of the 56 Member States reported having established functioning monitoring and/or enforcement mechanisms. However, very limited information on the composition, mandate and functions of such mechanisms was shared by the respondents. This may highlight a potential weakness in the measures taken by Member States to give effect to the Code and subsequent relevant Health Assembly resolutions.

19. In response to the request to the Director-General in resolution WHA61.20 for intensification of support to Member States in implementing the Code, the Secretariat conducted an internal review and identified six areas for action: advocacy; operational research, including research on the evidence of the effect that implementation of the Code is having on infant and young child nutrition in countries with Code-related national legislation, and research to describe good practices for the implementation of the Code and the global strategy for infant and young child feeding; training; technical assistance in policy development and in legislative reform, including assistance in the proper interpretation of the Code and subsequent relevant Health Assembly resolutions, so as to avoid possible ambiguities; and monitoring. Actions will be initiated in the biennium 2010–2011, subject to sufficient funding.

## COMPLEMENTARY FEEDING

20. WHO and UNICEF convened a technical meeting to identify priorities for scaling up action.<sup>1</sup> It was acknowledged that community interventions, including counselling on feeding practices and optimal use of locally available foods, should be the cornerstone of any programme to improve complementary feeding. In addition, participants recognized that centrally produced fortified foods, micronutrient powders and lipid-based nutrient supplements have been shown to be effective in improving micronutrient status. Carefully monitored applications at scale are needed to generate more evidence on the use of these products. In all instances, their promotion should be compliant with the Code and Health Assembly resolutions. More specific recommendations relative to the marketing of complementary food are being studied.

21. Tools based on the linear programming technique<sup>2</sup> are being developed in order to help to identify balanced complementary diets at lowest cost, using locally available food and micronutrient supplements or fortified foods as needed. They will become available for field application in 2010.

---

<sup>1</sup> *Strengthening action to improve feeding of infants and young children 6–23 months of age in nutrition and child health programmes: report of proceedings, Geneva, 6–9 October, 2008.* Geneva, World Health Organization, 2008.

<sup>2</sup> *Linear programming: a mathematical tool for analysing and optimizing children's diets during the complementary feeding period, and ProPAN: "Process for the promotion of child feeding"* (in the original Spanish, *Proceso para la Promoción de la Alimentación del Niño*. Emory University, Atlanta, United States of America; Nutrition Research Institute, Peru; National Institute of Public Health, Mexico; and Pan American Health Organization, Washington, DC, United States of America. <http://www.paho.org/english/ad/fch/nu/ProPAN-index.htm>.

22. Updated indicators for assessing infant and young child feeding practices in a given population were published in 2008,<sup>1</sup> including new indicators of dietary diversity, feeding frequency and iron consumption. An operational guide on measurement issues will become available in 2010, together with an update of indicator values for over 40 countries with data from the Demographic and Health Surveys.<sup>2</sup>

## WHO CHILD GROWTH STANDARDS

23. More than 100 countries have officially adopted the WHO Child Growth Standards and are at various stages of implementation. Application of the standards has prompted many countries and child health agencies to increase investment in programmes to reduce undernutrition, while also taking steps towards controlling the emerging epidemic of obesity. Concrete efforts are being undertaken to establish nutrition surveillance systems to monitor the double burden of malnutrition in children under-five years old using WHO's Anthro software,<sup>3</sup> and among school-age children and adolescents using the WHO 2007 growth reference and corresponding software tools.

## SEVERE AND MODERATE MALNUTRITION

24. An interagency statement on the community-based management of severe acute malnutrition was published in 2007.<sup>4</sup> Evidence shows that it is possible to manage a large proportion of severely malnourished children at home using ready-to-use therapeutic foods, and combined with inpatient care, this approach could prevent many child deaths each year. WHO and UNICEF published a statement on identification of severe malnutrition using the WHO growth standards;<sup>5</sup> in the African Region, WHO supported capacity development on management of severe malnutrition in eight countries.

25. An interagency consultation on dietary management of moderate malnutrition in children (Geneva, 30 September – 3 October 2008)<sup>6</sup> discussed estimates of nutritional requirements, and approaches for management of children with moderate malnutrition, in particular wasting. WHO has now established a technical group that is defining specifications of diets or food supplements suitable for the recovery of moderately malnourished children aged 6 to 59 months; a second consultation to

---

<sup>1</sup> *Indicators for assessing infant and young child feeding practices: conclusions of a consensus meeting held 6-8 November 2007 in Washington D.C., USA*. Geneva, World Health Organization, 2008.

<sup>2</sup> *Indicators for assessing infant and young child feeding practices. Part 2: Measurement*. Geneva, World Health Organization, 2010 (in press).

<sup>3</sup> Accessible online at <http://www.who.int/childgrowth/software/en/>.

<sup>4</sup> *Community-based management of severe acute malnutrition: a joint statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund*. Geneva, World Health Organization, 2007. Accessible online at [http://www.who.int/nutrition/topics/Statement\\_community\\_based\\_man\\_sev\\_acute\\_mal\\_eng.pdf](http://www.who.int/nutrition/topics/Statement_community_based_man_sev_acute_mal_eng.pdf).

<sup>5</sup> *WHO child growth standards and the identification of severe acute malnutrition in infants and children: a joint statement by the World Health Organization and the United Nations Children's Fund*. Geneva, World Health Organization, 2009.

<sup>6</sup> Consultation report accessible online at [http://www.who.int/nutrition/publications/moderate\\_malnutrition/mm\\_report/en/index.html](http://www.who.int/nutrition/publications/moderate_malnutrition/mm_report/en/index.html).

determine the best options for programme delivery was held in Geneva from 24 to 26 February 2010. WHO is also reviewing the evidence for effective interventions to address stunting in young children.

## **MICRONUTRIENT MALNUTRITION**

26. Updated estimates of anaemia indicate that 47.4% of the preschool-age population is affected; it is calculated that 50% to 60% of the cases are due to iron deficiency.<sup>1</sup> The highest percentage of preschool-age children affected is in the African Region, while the greatest overall numbers are in the South-East Asia Region.

27. An estimated 33.3% of the preschool-age population globally is vitamin A deficient (serum retinol concentration of less than 0.70 µmol/l).<sup>2</sup> The African and South-East Asia regions have the highest proportions of preschool-age children with vitamin A deficiency. A review conducted in 2007 as part of the Countdown to 2015 initiative, which tracks progress towards achievement of the Millennium Development Goals on child survival and maternal health, identified vitamin A supplementation as an intervention that has been successfully scaled up in 66 of 68 countries with a high burden of child deaths.

## **CHILDHOOD OBESITY**

28. There has been a rapid rise in the numbers of children affected by excessive body weight, especially in developed countries and in countries with economies in transition. The number of overweight and obese (i.e. +2 standard deviations or more above the median of the WHO standards) preschool children in developing and developed countries in 2010 is estimated at 43 million.

29. WHO has developed reference data for assessing the problem, and the Organization is working to improve the definitions of the terms “overweight” and “obesity” from birth to adolescence based on risk of disease and functional outcome. In addition, the Secretariat is providing technical support to Member States in order to map the extent of this global epidemic and identify cost-effective interventions, including the development of nutrition-friendly schools. Intrauterine life, infancy, and preschool periods have all been considered as possible critical periods during which the long-term regulation of energy balance may be programmed.

## **INFANT FEEDING IN EMERGENCIES**

30. WHO, as member of the Infant Feeding in Emergencies Core Group, contributed to the revision of the operational guidelines on infant and young child feeding in emergencies: Operational Guidance for Emergency Relief Staff and Programme Managers (February 2007);<sup>3</sup> the Organization is also drawing up norms and standards for use in emergency nutrition response, while contributing to joint

---

<sup>1</sup> *Worldwide prevalence of anaemia 1993–2005: WHO global database on anaemia*. de Benoît B, McLean E, Egli I, Cogswell M (eds.). Geneva, World Health Organization, 2008.

<sup>2</sup> *Global prevalence of vitamin A deficiency in populations at risk 1995–2005: WHO global database on vitamin A deficiency*. Geneva, World Health Organization, 2009.

<sup>3</sup> Available online at <http://www.enonline.net/resources/view.aspx?resid=6>.

assessment and planning activities. In any emergency situation it is essential to be able to give effect to the Code and subsequent Health Assembly resolutions and ensure the safe distribution of breast-milk substitutes.

## **NUTRITION AND HIV**

31. WHO continues to review and consolidate scientific evidence on the effect of HIV infection and macronutrients, micronutrients, infant feeding, pregnant and lactating women, growth failure in children, and the nutritional consideration for use of antiretroviral agents. A consensus meeting on the guideline development was held in Geneva on 22 and 23 October 2009 in order to revise and update recommendations on infant feeding in the context of HIV. A rapid advice statement has been published with updated recommendations and principles.<sup>1</sup> WHO and partners are developing a framework for priority actions on nutrition and HIV/AIDS in order to facilitate a comprehensive response for nutrition in HIV programming.

32. Technical consultations on nutrition and HIV were convened at regional level in order to discuss integration of activities on nutrition and HIV, and highlight steps to translate science into workplans. The Secretariat provided technical support to 29 countries in the African Region for the integration of HIV-related activities into those relating to infant and young child feeding; 11 countries received support for integrating nutrition into HIV funding proposals, and five have strengthened the monitoring and evaluation component of nutrition interventions in HIV settings.

33. The Regional Office for Africa established a core group of experts on scaling up prevention of mother-to-child transmission of HIV and treatment for paediatric HIV/AIDS interventions. WHO-supported research in Burkina Faso, Kenya and South Africa has identified antiretroviral regimes that reduce the risk of HIV transmission through breastfeeding; this raises the prospect of being able to simplify the counselling and support needed, and facilitate strategies to improve infant feeding practices among all mothers in HIV-affected communities.

34. Several initiatives have been implemented in order to strengthen the capacities of health providers: a short course for community level providers on nutritional care and support for people living with HIV/AIDS has been used in sub-Saharan Africa; and a course on the use of guidelines for nutritional care of children living with HIV (six months to 14 years) has been field-tested in Malawi and South Africa and is ready for country introduction.

35. WHO is also collaborating with partners in the development of monitoring and evaluation tools, including indicators on prevention of mother-to-child transmission of HIV, nutrition and food security.

36. Breastfeeding is today the single most effective preventive intervention for improving the survival and health of children. It is estimated that more than one million deaths in children under the age of five could be prevented every year with the improvement of breastfeeding practices. Additionally, the deaths of more than half a million children can be prevented annually by adequate and timely complementary feeding.

---

<sup>1</sup> *Rapid advice: revised WHO principles and recommendations on infant feeding in the context of HIV – November 2009*. Geneva, World Health Organization, 2009. Available online at [http://whqlibdoc.who.int/publications/2009/9789241598873\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241598873_eng.pdf).

37. There is an urgent need to scale up evidence-based, cost-effective interventions for preventing and treating undernutrition; these need to be combined with the integration of nutrition interventions into related sectors. In this context, it will be essential to achieve a higher degree of coordination among the United Nations partners and other stakeholders in order to ensure adequate planning and implementation.

38. At its 126th session in January 2010, the Executive Board discussed an earlier version of this report and adopted resolution EB126.R5.<sup>1</sup>

## **ACTION BY THE HEALTH ASSEMBLY**

39. The Health Assembly is invited to adopt the resolution recommended by the Board in resolution EB126.R5.

= = =

---

<sup>1</sup> Document EB126/2010/REC/2, summary record of the seventh meeting, section 2.