



# WORLD HEALTH ORGANIZATION

FIFTY-THIRD WORLD HEALTH ASSEMBLY  
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## Infant and young child nutrition

### Report by the Director-General

1. Worldwide, more than one-third of under-five children are malnourished – whether stunted, wasted, or deficient in iodine, vitamin A or iron. These often irreversible and life-threatening forms of malnutrition are so thoroughly rooted in poverty and underdevelopment that sustainable development is compromised in populations where hunger and malnutrition prevail. This report focuses on improving the nutritional status of infants and young children, particularly through appropriate feeding.<sup>1</sup>

2. **Protein-energy malnutrition.** The prevalence of protein-energy malnutrition, as determined by rates of stunting and underweight, continues to decrease slowly. However, more than a quarter of the world's children are still malnourished – 26.7% (150 million) underweight and 32.5% (182 million) stunted – of whom 70% are in Asia, 26% in Africa and 4% in Latin America. The situation in some parts of Africa is particularly disturbing because numbers are increasing as a result of ecological disasters, war, civil disturbances, or mass population displacements.

3. Poverty underlies most of the world's malnutrition, with attendant inadequate and insecure food supply, inappropriate feeding practices and care, nutritional emergencies, and widespread infection and infestation compounded by lack of health services. Maternal malnutrition remains a major factor for the 30 million infants born each year with intrauterine growth retardation leading to retarded physical, mental and intellectual growth, and heightened risk of infectious diseases and death. Malnutrition contributes to nearly half (49%) of the 10.7 million deaths each year among preschool children in developing countries.

4. WHO provides support to countries in assessing, monitoring, preventing and managing protein-energy malnutrition. The global database on child growth and malnutrition covers 95% of the world's under-five population.<sup>2</sup> A recently published manual covering assessment, management and rehabilitation of severely malnourished children provides a basis for developing simplified guidelines and training materials for different settings, for example, in the context of the integrated management of childhood illness.<sup>3</sup> Meanwhile, the multicentre study to determine a new international growth reference is well under way in six countries (see Annex).

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<sup>1</sup> This report is submitted in accordance with resolutions WHA33.32 and WHA49.15, and Article 11.7 of the International Code of Marketing of Breast-milk Substitutes. For a comprehensive summary of global malnutrition and WHO's response, see: *Nutrition for health and development: progress and prospects on the eve of the 21st century [progress report June 1999]* (document WHO/NHD/99.9 (English only)).

<sup>2</sup> Now accessible on the WHO website: <http://www.who.int/nutgrowthdb>

<sup>3</sup> *Management of severe malnutrition: a manual for physicians and other senior health workers*. Geneva, World Health Organization, 1999, ISBN 92 4 15411 9.

5. **National nutrition policies and programmes.** Both of the major global nutrition conferences in the 1990s acknowledged the importance of multisectoral nutrition policies and plans for achieving sustainable food and nutrition security and reducing most forms of malnutrition.<sup>1</sup> Close collaboration with FAO and UNICEF and vigorous WHO regional nutrition programmes have contributed to preparing or strengthening comprehensive national nutrition plans and policies consistent with the goals of the World Declaration and Plan of Action for Nutrition. To date, 152 Member States (80%) have completed their nutrition plans and policies and another 19 (10%) are preparing them. In 1999, in collaboration with FAO and UNICEF, national nutrition programmes were reviewed and regional strategies developed for South-East Asia, Europe and the Western Pacific. Similar exercises are planned for 2000 in Africa and the Americas. WHO is also conducting a multicountry study to identify critical food and nutrition security issues in the context of strengthening national nutrition policies and programmes.<sup>2</sup>

6. **Other major forms of childhood malnutrition.** Some 740 million people – both children and adults – in 130 countries are affected by **iodine deficiency disorders**, still the greatest single cause of preventable brain damage to the fetus, infant and young child. Progress has nevertheless been remarkable, as discussed at the Health Assembly in 1999.<sup>3</sup> **Vitamin A deficiency** affects 100-140 million children in 118 countries, mainly in Africa and South-East Asia, causing blindness and increased risk of infection and death. Successful prevention and control strategies include supplementation, food fortification and dietary improvement. In 1998, 45 countries provided vitamin A supplements through national immunization days. Still other major forms of childhood malnutrition, including **iron deficiency**, **anaemia**, and the startling problem of **childhood obesity**, are discussed in the report on global malnutrition.<sup>4</sup>

7. **Nutrition in emergencies.** To help prevent, diagnose and manage malnutrition and outbreaks of specific nutrient deficiencies that regularly occur among refugees and other severely deprived or famine-affected populations, technical reviews have been prepared on **scurvy**, **thiamine deficiency**<sup>5</sup> and **pellagra**. WHO and UNHCR jointly organized a consultation (Rome, February 1998) to draw up guiding principles on caring for the nutritionally vulnerable during emergencies. During the crisis in the south Balkans (April to July 1999), the **Inter-Agency Medical/Health Task Force**, chaired by WHO, met weekly to review queries from the field on basic public health matters, including the optimal feeding of infants and young children.<sup>6</sup> WHO, UNICEF, the International Baby Food Action Network and Linkages (Washington, DC) are preparing a training module on infant feeding in emergencies.

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<sup>1</sup> The International Conference on Nutrition (Rome, 1992) and the World Food Summit (Rome, 1996).

<sup>2</sup> The study on improving household food and nutrition security for the vulnerable is under way in China, Egypt, Ghana, Indonesia, Myanmar and South Africa.

<sup>3</sup> See document WHA52/1999/REC/3, summary records of Committee A, eighth and ninth meetings, and resolution WHA52.24. See also: *Progress towards the elimination of iodine deficiency disorders* (document WHO/NHD/99.4).

<sup>4</sup> *Nutrition for health and development*, op. cit.

<sup>5</sup> *Scurvy and its prevention and control in major emergencies* (document WHO/NHD/99.11); *Thiamine deficiency and its prevention and control in major emergencies* (document WHO/NHD/99.13).

<sup>6</sup> Information Sheet No. 6, "Optimal feeding of infants and young children" in: Report of the Inter-Agency Medical/Health Task Force, *Humanitarian crisis in south Balkans* (document WHO/EHA/00.01).

8. **HIV and infant feeding.** In 1998 a joint WHO/UNICEF/UNAIDS technical consultation on HIV and infant feeding introduced policy and practice guidelines.<sup>1</sup> A recent article<sup>2</sup> suggested that HIV is less likely to be transmitted through exclusive breastfeeding than mixed feeding. Although concluding that no change is warranted in current guidelines, WHO is nevertheless taking the lead in conducting further research. Meanwhile, WHO, UNICEF and UNAIDS are jointly developing a counselling course on HIV and infant feeding to be used in conjunction with breastfeeding training.

9. **Breastfeeding and complementary feeding.** Proper feeding is crucial for growth, health and nutritional well-being during the first two years of life. Inappropriate feeding is responsible for a major proportion of childhood malnutrition and related mortality. WHO's Global Data Bank on Breastfeeding,<sup>3</sup> which now covers 94 countries and 65% of the world's infant population, shows that only an estimated 35% of infants are exclusively breastfed between 0 to 4 months of age.

10. The Baby-friendly Hospital Initiative, launched in 1992, is being implemented in 171 countries; the number of hospitals designated "baby-friendly" has risen from 4300 in 1995 to more than 16 000 at the end of 1999. There is nevertheless growing concern that standards have not been maintained in all cases. Accordingly, WHO is seeking to support and expand the Initiative by strengthening national capabilities through, among other means, training health workers,<sup>4</sup> sensitizing administrators and policy-makers,<sup>5,6</sup> and disseminating a monitoring and reassessment package<sup>7</sup> developed in collaboration with Wellstart International. The package is designed to foster involvement of hospital management and staff in problem identification and planning for improved implementation of the 10 steps to successful breastfeeding.<sup>8</sup> These approaches should contribute to the Initiative's long-term sustainability by maintaining its credibility.

11. Faulty complementary feeding practices compounded by nutritionally inadequate, and frequently contaminated, foods often introduced too early (in developing and developed countries) or too late (in developing countries) remain a major cause of malnutrition. A review of the scientific evidence for making sound infant-feeding recommendations has been widely disseminated.<sup>9</sup> Practical guidelines for health and nutrition workers and their trainers on complementary feeding, for example in the context of the integrated management of childhood illness, are being drawn up on this basis in collaboration with the London School of Hygiene and Tropical Medicine. A three-day training module on complementary feeding is also under preparation to assist in examining the nutritional value of available foods, adapting feeding recommendations to local conditions and counselling mothers of young children.

<sup>1</sup> *HIV and infant feeding* (documents WHO/FRH/NUT/CHD/98.1-3).

<sup>2</sup> Coutoudis A. et al. Influence of infant-feeding patterns on early mother-to-child transmission of HIV-1 in Durban, South Africa: a prospective cohort study. *The Lancet*, 1999, **354**: 471-476.

<sup>3</sup> The WHO Global Data Bank on Breastfeeding will soon be accessible on the Internet.

<sup>4</sup> *Breastfeeding counselling: a training course* (documents WHO/CDR/93.3-6).

<sup>5</sup> *Promoting breastfeeding in health facilities – a short course for administrators and policy-makers* (document WHO/NUT/96.3).

<sup>6</sup> *Evidence for the ten steps to successful breastfeeding* (document WHO/CHD/98.9).

<sup>7</sup> WHO, UNICEF and Wellstart International. *The Baby-friendly Hospital Initiative. Monitoring and reassessment: tools to sustain progress* (document WHO/NHD/99.2).

<sup>8</sup> In: *Protecting, promoting and supporting breastfeeding: the special role of maternity services*. A joint WHO/UNICEF statement. Geneva, World Health Organization, 1989.

<sup>9</sup> WHO, UNICEF, University of California (Davis), ORSTOM. *Complementary feeding of young children in developing countries: a review of current scientific knowledge* (document WHO/NUT/98.1).

12. **Progress in implementing the International Code of Marketing of Breast-milk Substitutes.**

Since the Thirty-fourth World Health Assembly adopted the International Code in 1981, 160 Member States (84%) have reported to WHO on action taken to give effect to its principles and aim (83% of Member States in Africa, 97% in the Americas, 80% in South-East Asia, 63% in Europe, 95% in the Eastern Mediterranean, and 96% in the Western Pacific). National action includes adopting or strengthening legislation, guidelines for health workers or distributors, agreements with manufacturers, and monitoring and reporting mechanisms. Since the last report by the Director-General (1998) Benin, Cambodia, Croatia, France, Georgia, Guinea, Malaysia and Panama have provided information on a range of new action.

13. WHO responded to requests for technical support from a number of countries, including Australia, New Zealand and Pakistan, and organized training workshops in Thailand and in the African Region (for 12 French-speaking countries). In November 1998 the Director-General convened two round tables, one with consumer and community-based nongovernmental organizations and another with the International Association of Infant Food Manufacturers. The meetings discussed improving implementation of the Code in countries and improving dialogue between interested parties.

14. **Global technical consultation on infant and young child feeding.** WHO is organizing, in close collaboration with UNICEF, a consultation (Geneva, 13-17 March 2000) to assess infant and young child feeding policies, review key interventions, and develop a comprehensive strategy for the next decade. It is expected that this process will strengthen commitment – by, among others, Member States, WHO, UNICEF and other international and bilateral organizations – to sound infant and young child feeding policies and practices. Discussion themes include improving breastfeeding and complementary feeding practices, strengthening the Baby-friendly Hospital Initiative, supporting breastfeeding women, and reinforcing implementation of the International Code of Marketing of Breast-milk Substitutes. Cross-cutting issues are important to nearly all discussion themes, for example HIV and infant feeding, women's health, micronutrient malnutrition, growth and development and feeding during emergencies. Information on the outcome will be submitted to the Fifty-third World Health Assembly.<sup>1</sup>

## **ACTION BY THE HEALTH ASSEMBLY**

15. The Health Assembly is invited to note the report.

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<sup>1</sup> Document A53/INF.DOC./2.

## ANNEX

**THE WHO MULTICENTRE GROWTH REFERENCE STUDY**

1. In 1993 a WHO Expert Committee drew attention to some serious technical and biological problems with the growth reference currently recommended for international use.<sup>1</sup> The Committee challenged its suitability and expressed serious concern that a reference based on children who were primarily artificially fed was inappropriate for assessing the growth of breastfed infants.
2. Research conducted by WHO shows that the growth pattern of healthy breastfed infants differs significantly from the current international reference.<sup>2</sup> The negative deviations are large enough to lead health workers to make faulty decisions regarding the adequacy of the growth of breastfed infants, and thus to advise mothers to supplement unnecessarily, or even to stop breastfeeding altogether. Given breastfeeding's health and nutritional benefits, this potential misinterpretation of the growth pattern of healthy breastfed infants has great public health significance. The premature introduction of complementary foods can have life-threatening consequences for young infants in many settings, especially where the role of breastfeeding in preventing severe infectious morbidity is crucial to child survival.
3. In 1994 the Health Assembly by resolution WHA47.5 requested the Director-General to develop a new international reference to assess the growth of breastfed infants. WHO's normative function places it in a unique position to provide the leadership required to carry out a project of such complexity and global visibility. In collaboration with several organizations of the United Nations system and national institutions, WHO began developing a new reference that, unlike the current reference, will be based on an international sample of breastfed infants from healthy populations with unconstrained growth.
4. The **objective** of the exercise is to establish a new international reference by constructing a set of growth curves suitable for assessing the growth and nutritional status of both population groups and individual children of preschool age.
5. In terms of **methodology**, WHO is conducting a multicountry study in diverse geographical settings including Africa, the Americas, Asia and Europe in order to construct a sound reference of lasting value. Based on a pooled sample of the world's children, the new curves will reinforce the fact that human growth during the first five years of life is very similar across diverse ethnic backgrounds.<sup>3,4</sup> This approach should also serve to minimize the political difficulties that have arisen by using a single country's patterns as a worldwide "standard" for optimal child growth.
6. The research design includes a total of more than 12 000 healthy infants and children by combining a longitudinal study from birth to 24 months of age of 300 newborns per site with a cross-

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<sup>1</sup> *Physical status: the use and interpretation of anthropometry. Report of a WHO Expert Committee.* Geneva, World Health Organization, 1995 (WHO Technical Report Series, No. 854).

<sup>2</sup> WHO Working Group on Infant Growth. *An evaluation of infant growth.* Geneva, World Health Organization, 1994 (document WHO/NUT/94.8).

<sup>3</sup> *Physical status: the use and interpretation of anthropometry*, op. cit.

<sup>4</sup> WHO Working Group on the Growth Reference Protocol and WHO Task Force on Methods for the Natural Regulation of Fertility. Growth patterns of breastfed infants in seven countries. *Acta Paediatrica*, 2000, **89**: 215-222.

sectional study of children aged 18-71 months involving 1400 children per site. Key selection criteria for newborns to be enrolled in the study include absence of illness and socioeconomic constraints on growth, and nonsmoking mothers who are breastfeeding infants born at term.

7. Rigorous scientific standards are being applied to this complex cross-cultural field-based project. Quality control measures include regular coordination meetings, careful selection and thorough training of interviewers, specially designed and highly reliable measuring equipment, regular standardization sessions, staff exchanges between sites, and continual quality assessment of completed questionnaires and measurements. Breastfeeding support provided to mothers participating in the study will help to ensure an unbiased sample by allowing a larger proportion of mothers wishing to breastfeed to actually do so.

8. WHO serves as the coordinating centre and is responsible for pooling data from study sites and preparing the new curves using the best available statistical techniques. Data entered locally using a centrally prepared data management system are transferred monthly to WHO where further quality control is carried out and compliance with the study protocol is assessed.

9. The study is under way in **Brazil, Ghana, India, Norway, Oman and the United States of America**. **China** is being considered as the study site in East Asia. Depending on the availability of funds, data collection is expected to be completed in 2003.

10. Thus far, in addition to the considerable global and regional resources that WHO has engaged for this exercise, the study's other major supporters include the governments of **Brazil, Canada, Norway, Netherlands, Oman and the United States**, together with the United Nations and UNICEF. Despite this generous financial support, just under a quarter of the study's overall funding remains to be identified in order to ensure the successful and timely completion of all aspects of the study.

11. The results of the study are expected to have great public health significance, in developed and developing countries alike, in terms of health, nutrition, and child-spacing benefits. The new international growth reference will achieve several important goals. In particular it will provide, for many years to come, a scientifically reliable yardstick of children's growth achieved under desirable health and nutritional conditions that can be used to:

- monitor the growth and nutritional well-being of individual infants and young children;
- provide accurate community and national estimates of under- and over-nutrition;
- help assess poverty, health and development.

12. No less important, the new reference will establish the breastfed infant as the normative model against which *all* alternative-feeding methods must be measured in terms of growth, health and development. It will also provide a strong advocacy tool for promoting the right of all children to achieve their full genetic growth potential in a smoke-free environment. Lastly, at no additional cost, the study will permit the compilation of urgently needed reference data to assess the nutritional status of lactating women.

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