Malnutrition remains a major problem in children in large parts of the developing world, but specific nutritional interventions have been relatively neglected. About 150 million young children in the developing world are either wasted or stunted, and it has been estimated that over half of childhood deaths are attributable to the potentiating effects of malnutrition. In highly affected countries, rates of children who are wasted may exceed 10%, while up to 40% of all children less than 5 years of age may be stunted [1]. However, it is only recently that the potentiating effects of malnutrition on infectious diseases have been appreciated. Thus, tackling both mild-moderate and severe malnutrition effectively is essential if the millennium development goals are to be achieved.

Intervention strategies to promote exclusive breastfeeding for about 6 months in the absence of maternal HIV infection will result in significant improvements in nutrition and are key to prevention of malnutrition. In their comprehensive analysis, Black et al. [2] estimated that suboptimal breastfeeding was responsible for 1.4 million child deaths globally. Programs to support breastfeeding have been shown to be highly effective in increasing exclusive breastfeeding rates, and the more intensive the programs, the more successful they are likely to be. However, in areas with a high prevalence of HIV, careful evaluation and effective counseling of HIV-positive mothers regarding feeding choices is essential.

In recent years, ready-to-use foods (RTUFs) have been developed for the prevention and treatment of malnutrition in young children. Based on formulas that had been developed in emergency and refugee settings, the World Health Organization developed a high-energy liquid formula, so-called F100. Since a liquid formula was susceptible to contamination, an RTUF was developed with a nutrient composition similar to F100 but manufactured in the form of a paste which was resistant to bacterial contamination [3]. Evidence from a number
of randomized controlled trials shows that RTUFs have an important role to play in the prevention and treatment of malnutrition in both outpatient and inpatient settings. Such foods were initially produced commercially, but it has been shown, particularly in Malawi, that such foods can be locally produced at low cost. Further studies using the locally produced RTUFs have had equally impressive results.

The mortality rates for children admitted to hospital with severe acute malnutrition (SAM) have remained at 20–30% for decades in spite of management protocols which, if properly implemented, should reduce these rates to <5%. The limiting factors of these protocols are that they require trained staff and admission to hospital in the initial stages to implement them fully, which is often not possible in areas where rates of SAM are high. However, recent experience with RTUFs has met with more success, resulting in fewer children requiring initial hospital admission and better survival rates. Those with complications who require hospital admission can usually be discharged after a shorter hospital stay once established on RTUF, thus maximizing the use of hospital beds [4].

In some parts of the world, HIV is a major underlying cause of malnutrition in children and is associated with substantially higher mortality rates in those with severe malnutrition compared with malnourished children uninfected with HIV. Strengthening of programs for the prevention of mother to child transmission of HIV is central to reducing the pool of HIV-infected children, and for those infected with HIV, antiretroviral treatment programs need to be implemented.

References