

# Nutritional Deficiencies in the Developing World: Current Status and Opportunities for Intervention

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## KEYWORDS

- Undernutrition • Malnutrition • Micronutrients • Disease burden
- Dietary supplementation • Food Insecurity • Stunting
- Wasting

Nutritional deficiencies are widely prevalent globally, and contribute significantly to high rates of morbidity and mortality among infants, children, and mothers in developing countries. Several contributory factors such as poverty, lack of purchasing power, household food insecurity, and limited general knowledge about appropriate nutritional practices increase the risk of undernutrition in developing countries. The most recent estimates<sup>1</sup> indicate that 178 million children younger than 5 years are stunted, representing 32% of all children worldwide, and a further 19 million have severe acute malnutrition (SAM).

To understand better what causes undernutrition, it is necessary to systematically evaluate the causes and determinants of undernutrition at different levels. **Fig. 1** illustrates a well-recognized conceptual framework across the life span, indicating how nutrition problems may have an impact across various age groups and could potentially lead to intergenerational effects.<sup>2</sup> The widely used conceptual framework of proximal and distal determinants developed by UNICEF (**Fig. 2**) also illustrates these causes, and their interactions.<sup>2</sup> The synergistic interaction between the 2 causes (inadequate dietary intake and disease burden) leads to a vicious cycle that accounts for much of the high morbidity and mortality in developing countries. Three groups of underlying factors contribute to inadequate dietary intake and infectious disease: inadequate maternal and child care, household food insecurity, and poor health services in an unhealthy environment.

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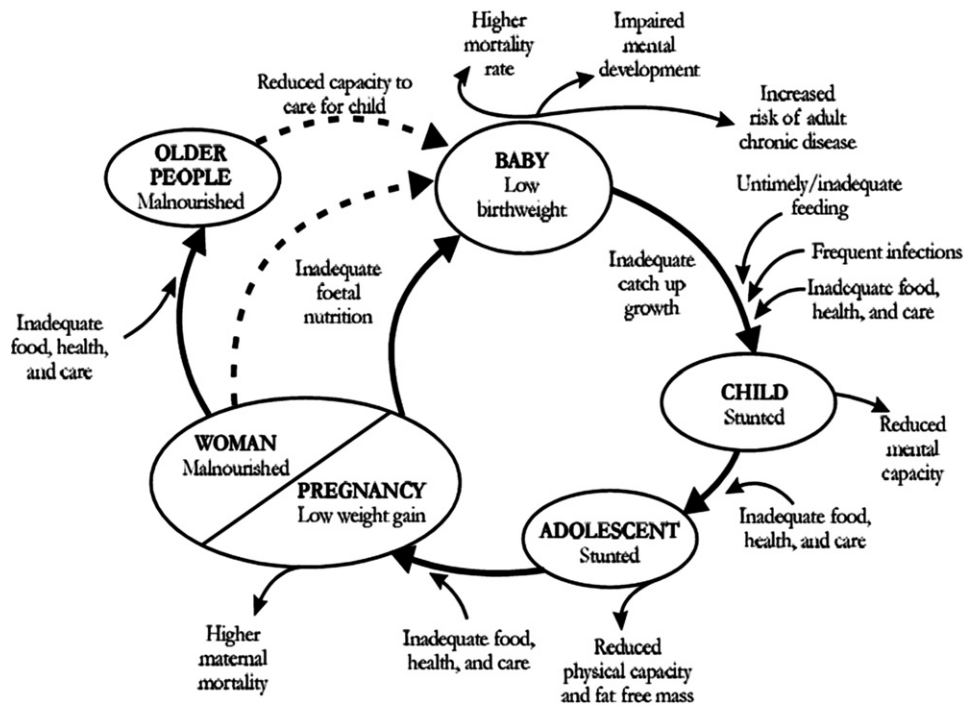
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**Fig. 1.** Undernutrition across the life course. (Adapted from ACC/SCN. Fourth report on world nutrition status. Geneva: ACC/SCN in collaboration with IFPRI; 2000; with permission.)

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