

(Grummer-Strawn, Reinold, Krebs, et al, 2010).

Infants should be breastfed for the first 6 months and preferably for 1 year, be introduced to some solid foods after about 4 to 6 months, and receive iron-fortified cereal for at least 18 months (see Chapter 9). Vitamin B₁₂ supplementation is recommended if the breastfeeding mother's intake of the vitamin is inadequate or if she is not taking vitamin supplements (Roumeliotis, Dix, and Lipson, 2012). If the infant is being exclusively breastfed after 4 months (when fetal iron stores are depleted), iron supplementation (1 mg/kg/day) is recommended until appropriate iron-containing complementary foods (such as iron-fortified cereal) are introduced (Baker, Greer, and American Academy of Pediatrics Committee on Nutrition, 2010). The introduction of solids for vegetarian infants may occur using the same guidelines as for other children (see Nutrition, Chapter 11). A variety of foods should be introduced during the early years to ensure a well-balanced intake. Infants who have particular nutritional deficits should be identified; a multidisciplinary approach should be taken to identify the deficit and the etiology, and to establish a plan with the caregiver to promote adequate growth and development.

Severe Acute Malnutrition (Protein-Energy Malnutrition)

Malnutrition continues to be a major health problem in the world today, particularly in children younger than 5 years old. However, lack of food is not always the primary cause of malnutrition. In many developing and underdeveloped nations, diarrhea (gastroenteritis) is a major factor. Additional factors are bottle feeding (in poor sanitary conditions), inadequate knowledge of proper child care practices, parental illiteracy, economic and political factors, climate conditions, and cultural and religious food preferences. Poverty is an underlying cause of malnutrition due to the association of poor environmental conditions and lack of adequate food (Imdad, Sadiq, and Bhutta, 2011). The most extreme forms of malnutrition, or **protein-energy malnutrition (PEM)**, are kwashiorkor and marasmus. Some authorities, including the World Health Organization, suggest that severe malnutrition encompasses more than protein energy deficits and thus prefer the term *severe*