

The First 1,000 Days: Early Influences on Obesity and Health



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In recent years scientists increasingly emphasize the importance of the so-called first 1,000 days of life, as a critical period for the development of the brain, metabolism, and the immune system. During this time, the foundations are laid that may determine a child's risk of obesity, heart disease, diabetes, and many other health problems later in life.

The first 1,000 days include the prenatal period, lasting about nine months, and the first two years of the child's life. This is when the body is most adaptable and sensitive to environmental factors, nutrition, stress, and parental lifestyle. It is also when metabolic programming occurs, shaping how the body processes food, stores fat, regulates hormones, and develops the immune system. Therefore, optimized nutrition during the first 1,000 days is critical for healthy development and a healthy life not only for the newborn, infant and toddler, but for the entire life, health and well-being. During the early stages of life, a child's nutrition should provide all the essential nutrients in the right amounts to support healthy growth and development. This is not just about how much food a child eats, but also about its quality. Certain nutrients play a particularly important role in development, including vitamins—e.g. A, B, and D, and minerals such as iodine, iron, calcium, and magnesium, as well as omega-3 fatty acids. Since some of these nutrients are found only in small amounts in natural foods, supplementation may be necessary during this critical period to ensure that children get everything they need for optimal growth and long-term health.

Nutrition during pregnancy plays a key role, affecting not only the baby's growth but also their future metabolism. Deficiencies in protein, vitamins, or minerals may increase the risk of obesity and metabolic diseases, while excessive calorie or sugar intake can have similar effects. Rapid weight gain during pregnancy is also associated with a higher risk of childhood overweight. Early feeding choices matter as well. It has been well documented, that breastfeeding during the first months of life provides numerous benefits, including protection against infections, support for brain development, and a reduced risk of overweight later in childhood. Rapid weight gain in infancy, particularly in the first six months, may predispose a child to obesity in preschool and school years, highlighting the importance of monitoring growth and adjusting nutrition accordingly.

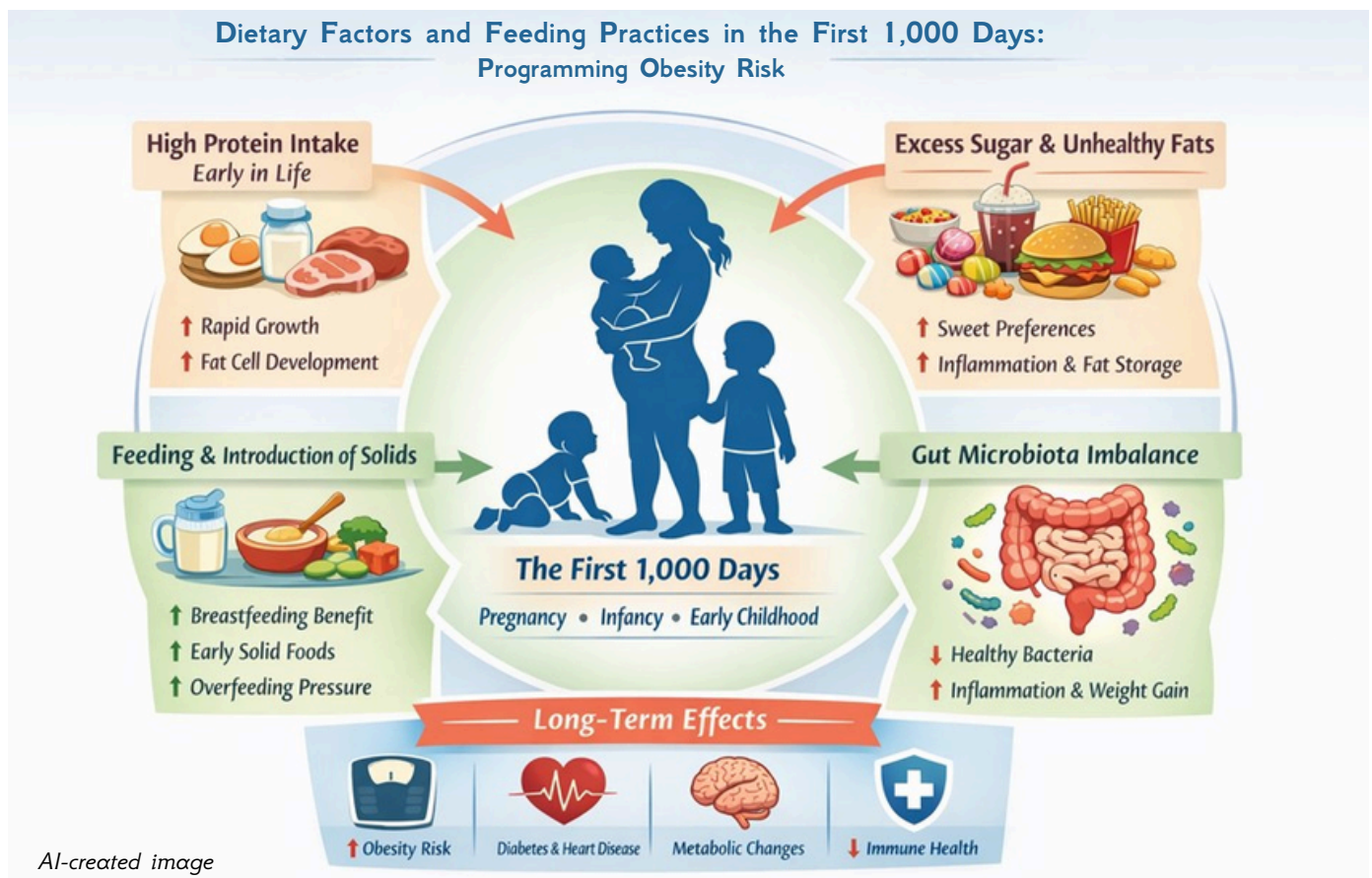
Beyond overall energy intake, specific components of the diet play a crucial role in shaping future metabolic health. One of the most discussed factors is protein intake in early life. High protein consumption, particularly from animal sources during infancy and early childhood, may stimulate hormonal pathways that promote faster growth and increased fat cell development. This early acceleration of growth has been linked to a higher risk of obesity in later childhood.

The type of dietary fat is also important. Diets low in omega-3 fatty acids and high in saturated fats may promote low-grade inflammation and impair insulin sensitivity. These changes can influence how efficiently the body uses and stores energy, increasing the likelihood of excess fat accumulation over time. High exposure to added sugars, both during pregnancy and in early childhood, may further contribute to metabolic programming.

Early and frequent consumption of sweet foods and beverages can shape taste preferences, leading to a stronger preference for high-sugar products later in life. This may make it more difficult to maintain a balanced diet and healthy body weight in childhood and adulthood.

How infants and young children are fed is just as important as what they eat.

Feeding methods that encourage children to eat beyond their natural hunger cues—such as pressuring them to finish bottles or meals—may interfere with the development of normal appetite regulation. Over time, this can weaken the body’s ability to recognize signals of fullness, increasing the risk of overeating. The timing and quality of complementary feeding also matter. Introducing solid foods too early <17 week of life, particularly energy-dense and highly processed products, may promote excessive calorie intake. In contrast, offering a variety of healthy foods, including vegetables and minimally processed products, can support the development of healthier eating habits and food preferences. Emerging research suggests that early nutrition also shapes the gut microbiota, which plays an important role in metabolism and energy balance. Diets low in fiber and high in sugars and saturated fats may promote an unfavorable microbial profile that supports inflammation and fat storage. Since the gut microbiota develops rapidly in early life, feeding practices during this period may have long-lasting metabolic effects.



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The significance of the first 1,000 days extends beyond growth and body weight.

It affects metabolic health, immune function, cognitive development, and the risk of chronic diseases later in life. By investing in healthy beginnings, families invest in the long-term health of their children. Healthy maternal nutrition, breastfeeding, careful monitoring of infant growth, and a balanced family lifestyle all contribute to laying the foundation for a healthier future. What happens during these early days truly sets the stage for lifelong health.

