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# Feeding Behaviour of Infants and Young Children and Its Impact on Child Psychosocial and Emotional Development

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## Introduction

Feeding is a primary event in the life of an infant and young child. It is the focus of attention for parents and other caregivers, and a source of social interaction through verbal and non-verbal communication. The eating experience provides not only sustenance but also an opportunity for learning. It affects not only children's physical growth and health but also their psychosocial and emotional development. The feeding relationship is affected by culture, health status and temperament.

## Subject

The essential component of feeding behaviour in young children is the relationship between the child and the primary caregiver. The first three years of life are a particular challenge because a child's feeding abilities and needs change with motor, cognitive and social development.  In the

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first stage (birth to three months) of self-regulation and organization, the child integrates experiences of hunger and satiety to develop regular feeding patterns. In the second stage (three to seven months), the infant and parent form an attachment that allows them to communicate with each other and the infant develops basic trust and self-soothing behaviours.  In the third stage (six to 36 months), the child gradually “separates” emotionally from the parent and discovers a sense of independence or autonomy, making use of developing motor and language skills to control the environment and establish independent feeding.

With participation in family meals, the social component of feeding expands. The child begins to mimic eating choices, patterns and behaviours modelled by family members. The structure of family meals sets limits for the child as he or she achieves independent feeding skills. The accessibility of particular foods, modelling, media exposure and feeding interactions shape a child’s eating behaviour and food preferences.

The caregiver’s behaviours and the child’s temperament influence the feeding relationship. The parent who allows her infant to determine timing, amount and pacing of a meal helps her infant develop self-regulation and secure attachment. The parent who allows her toddler to explore the environment while providing structure and appropriate limits helps her child develop motor and social skills. The effective parent adjusts and responds appropriately to her child’s temperament — the child’s emotional reactivity, adaptability and response to change.  Temperament can affect how a child approaches and responds to new foods and to a parent’s feeding patterns.

Culture may significantly influence the feeding experience. It may determine not only the choice of infant feeding (breast milk or formula) but also associated behaviours (co-sleeping is linked to prolonged breastfeeding), the length of feeding method (later weaning in developing countries versus earlier weaning for working mothers in developed countries), and exposure to feeding environments outside the home (child care among families with mother who work outside the home).

**Problems**

Mild and transient feeding problems occur in 25% to 35% of young children while severe and chronic feeding problems occur in 1% to 2%.[1] Common conditions include overeating, poor eating, feeding behaviour problems and unusual or unhealthy food choices. Although medical disorders and inappropriate food selection can result in feeding problems, these conditions are

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often associated with early problems in parent-child feeding experiences.  Problems with self-regulation, attachment, temperament and the development of autonomy can contribute. A poor attachment may result from substance abuse or mental illness in the caregiver, developmental delay or a medical condition in the child, and parent-child personality/temperament conflict.

While most feeding problems in infants and young child are temporary, emotional and social development may be impacted during late childhood, adolescence and adulthood. Obesity, cardiovascular disease, diabetes mellitus and behavioural problems are more frequent in those with early childhood feeding problems.

1. *Overeating.* The prevalence of overweight and obesity in the United States has increased to 10.4% in two- to five-year olds, 15.3% in six- to 11-year olds, and 15.5% in 12- to 19-year olds.[2] These children are not only at risk for medical problems (e.g. diabetes mellitus, hypertension, orthopedic problems, obstructive sleep apnea), but also poor self-esteem, disturbed body image, social isolation, maladjustment, depression and eating disorders. Social stigmatization begins as early as preschool and continues into school-age as their peers may reject overweight children.  Parental concerns about overeating and obesity may result in inappropriate restriction of their young child's diet.
2. *Poor eating or not gaining sufficient weight*. A parent may misperceive her child as having insufficient nutritional intake when the child is active and more interested in play and the environment than in meals. Some parents have inappropriate expectations about sufficient food portions and weight gain. Failure to thrive (FTT) occurs when a child's rate of weight gain has decreased to below the third to fifth percentile for gestation-corrected age and sex, or the child's weight has fallen and crossed two major percentiles in a standardized growth chart. Children with FTT may have impaired growth (e.g. height, head circumference) and developmental skills and are at risk for long-term developmental and behavioural problems.
3. *Feeding behaviour problems.* Parents may have difficulty making the transition from an infant who is cooperative during feeding to a toddler who seeks independence at mealtime. Limited food preferences may be normal and temporary during this period or may develop into a behavioural disorder. Food phobias or a post-traumatic feeding disorder may result from a painful episode (e.g. choking with a particular food) or a difficult experience associated with a food-induced allergic reaction.

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4. *Unusual choices.* Pica, or the ingestion of non-food substances, is normal in children under two years of age who explore their environment through hand-to-mouth experiences. After two years of age, pica is a behavioural condition more frequent in children with insufficient stimulation, psychological disorders and mental retardation.
5. *Unhealthy food choices.* Food preferences are established through exposure and accessibility to foods, modelling and advertisements. Most “alternative” diets are not harmful, although specific nutrient deficiencies should be addressed with some (for example, iron and vitamin B12 in vegan diets).

**Research Context**

Early childhood feeding experiences affect both health and psychological well-being. Because many feeding problems have their roots in infancy and childhood, current research focuses on determining the antecedents to these problems and the effectiveness of modifying various factors.

**Key Research Questions**

What are the most significant behavioural antecedents to childhood obesity that affect feeding? How can they be modified? How can behavioural changes be sustained? What are the most effective community-based interventions that have an impact on optimal nutritional choices and early feeding behaviours? What cultural determinants influence optimal feeding behaviours in early childhood? How can a better understanding of unique cultural values and habits influence medical and public-health programs to improve childhood nutrition?

**Recent Research Results**

Behavioural research in childhood feeding has focused on breastfeeding (choice, initiation and sustainability), teaching parents developmentally-appropriate feeding methods, and behavioural programs directed to specific feeding disorders, including obesity, failure to thrive and anorexia nervosa. In each case, principles of behaviour modification, health promotion and education have been applied effectively.

Many studies have examined the proposal that breastfeeding protects against the development of obesity later in life. While some have found an insignificant effect,[3,4,5,6,7] others have found a significant[8] and even a dose-response relationship[9,10,11] between breastfeeding duration and lower

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risk of child obesity. Without a consensus, the benefits of breastfeeding (e.g. establishment of attachment, optimal nutrition and protection against certain infectious diseases), still support encouraging breastfeeding whenever possible. With breastfeeding, lower maternal control of food intake and greater maternal responsiveness to infant cues has a beneficial effect on infant-feeding style and food intake, acknowledges the infant's ability to self-regulate appropriate food intake, and may contribute to healthier eating patterns.[12]

Child-feeding practices and behavioural interventions may modify patterns of intake. An overview of pediatric obesity treatment concluded that dietary changes accompanied by behaviour change methods, exercise and parental involvement are important in long-term success.[13] Parental participation and modelling is instrumental in establishing and changing eating patterns in children. Modelling consumption of healthy foods, such as fruit and vegetables, has a positive effect on the consumption of those foods by children[14] whereas modelling dieting behaviours results in problems in regulating a child's intake.[15] Television has a powerful influence on the foods children request; limiting television viewing can lessen obesity.[16] Birch and Fisher have written an excellent review detailing the determinants of children's dietary intake and responses to their modification.[17]

**Conclusions**

Feeding infants and young children is a behavioural event influencing their growth and development. Early experiences with feeding set the stage for healthy feeding-associated behaviours in later childhood and adulthood.  Understanding the development of normal feeding behaviour in infants and young children makes it easier to distinguish between self-limited concerns and those requiring further intervention. Parents and other caregivers need knowledge about both nutritional content and developmentally appropriate feeding behaviours. Since earlier onset of problems results in more significant consequences, prevention of feeding disorders and related behaviour problems should be targeted towards guiding the feeding behaviours of infants and young children and their feeding relationships with parents and caregivers. Obesity (especially in developed countries) and undernutrition (especially in developing countries) can be addressed only through a combination of making healthy food available, ensuring an understanding of age-appropriate feeding practices, and supporting the emotional health of families. Cultural differences and temperament variations should be incorporated into any recommendations.

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## Implications for Policy and Service

1. Establish national dietary guidelines that are specific for children and easily understood and applied by parents.
2. Promote and support breastfeeding. The goals of *Healthy People 2010* are to increase the proportion of mothers who breastfeed to 75% in the early postpartum period, 50% at six months and 25% at one year.[18] Educate pregnant and new mothers on the advantages and maintenance of breastfeeding.
3. Advocate for nutrition in schools. Endorse and fund healthy school lunches and free school breakfasts (e.g. the United States federal government's *School Breakfast Program*[19]). Remove soda, sweetened beverages and unhealthy snacks from school campuses.[20] Support nutrition education in classrooms.
4. Require regular physical education in schools to promote a healthy lifestyle and to help decrease obesity.[21]
5. Restrict television advertisements endorsing unhealthy food choices. Use media to promote healthy eating and regular physical activity.
6. Increase the availability of affordable fresh foods, especially fruit and vegetables, in low socioeconomic communities.
7. Promote education about healthy eating habits through public-health messages and increase funding for public-health campaigns promoting breastfeeding, healthy foods and obesity prevention.
8. Fund research investigating the etiology, prevention and treatment of obesity; factors influencing choice of breastfeeding, food intake and physical activity; and child-feeding practices in differing socioeconomic and ethnic groups.
9. Form public and private partnerships to promote healthy eating. Coordinate efforts of policy-makers, health professionals, community leaders and parents.

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