Improving Complementary Feeding Practices and Responsive Parenting as a Primary Component of Interventions to Prevent Malnutrition in Infancy and Early Childhood

Background

An extensive literature supports the following generalizations concerning the determinants and consequences of growth faltering in children in developing countries during the period of complementary feeding (6 to 24/30 months of age):

a. Although endemic early childhood malnutrition is fundamentally attributable to poverty and lack of family economic resources, some children in poverty-stricken communities grow and develop normally. Among the determinants of better growth in such circumstances are family and caregiver characteristics, particularly education and household management or coping skills of the mother.

b. In addition to providing complementary foods that meet nutritional requirements, feeding practices (particularly frequency of feeding, and feeding style to ensure intake) are determinants of adequate growth.

c. Children who experience growth faltering, manifesting as low height and weight for age, also tend to be developmentally delayed as assessed through measures of psychomotor and cognitive performance.

d. Efficacy trials have demonstrated the potential of nutrition interventions to prevent growth faltering in conditions of endemic malnutrition, and interventions designed to support psychological development have also provided evidence that poverty does not present insurmountable barriers to development.

Although many developing countries are currently investing in integrated nutrition and early child education programs for preschool-aged children (3–5 years of age), such programs do not reach children in the most vulnerable period. A major barrier to the design and implementation of interventions for children in the period between 6 and 30 months of age is the lack of scientific knowledge about which caregiving activities are most important to prevent growth faltering and developmental delays and how best to promote these practices. Consequently, there is a need for multidisciplinary intervention research to better define caregiver behaviors that promote adequate growth and development under the conditions of poverty and rapid culture change that characterize most developing countries and to determine effective methods for facilitating their adoption.

Research Questions

1. Do the specific feeding-related caregiving behaviors that have been identified based on epidemiologic studies or extrapolated from child development theory actually increase intake of complementary foods and physical growth? Do they also result in improvements in psychological development?

Among the caregiving behaviors that have been identified as facilitating growth and development during the period of complementary feeding are: a) active or interactive feeding, as contrasted with passive presentation of food to the young child; b) selecting foods that are appropriate to the child’s emerging motor capacities and taste preferences; c) feeding in response to the child’s hunger cues; d) feeding in a nondisturbing, safe environment; and e) talking and playing with the child in the context of the meal.1,2 The efficacy of these behaviors needs to be directly tested as the basis for their identification is epidemiologic data and child development theory, but they have not been tested empirically.

2. With respect to improving intake of complementary foods and physical growth, is teaching caregivers broader concepts of child development and the interrelationships of infant psychological and physical needs as effective as teaching specific feeding behaviors? Does it also result in improvements in psychological development?

Anthropological studies have revealed that across a wide range of cultures family care practices during the period of complementary feeding and weaning from the breast are oriented to promoting independence, commonly at the expense of maintaining the benefits of the close mother-infant bond that characterizes the care practices of early infancy.3 At the same time, investigations in many populations suggest that people’s conceptions about young children’s nutritional needs and developmental capacities are not always congruent with scientific knowledge, and families are often unaware of the potentially negative or growth-inhibiting consequences of some traditional practices.4 Over the years, many words and phrases have been used to refer to positive parenting styles. Recently, the concept of responsive parenting has been proposed to describe the type of sensitive and supportive caregiving that is associated with good growth and development.5 Providing parents with better knowledge and skills to interpret infant and young child behaviors, as well as knowledge about their nutritional and developmental needs, may be both more effective and more efficient than teaching individual food-related care practices. However, to determine this requires empirical testing.

3. Are improvements in growth and psychological development that are achieved through integrated interventions that help parents to understand children’s developmental and nutritional needs additive or synergistic?
Given the close association between physical and psychological growth in early life, it is logical to expect that interventions that address these different dimensions simultaneously will have benefits that exceed single focus interventions. A small number of efficacy studies have examined the impact of combined interventions that address both improving complementary feeding and stimulating psychological development. Positive results were obtained for both physical growth and performance on psychological tests. However, the impact was additive rather than synergistic. In these trials, simultaneity was achieved through actions directed at the children, rather than through actions of their caregivers. It may be that in the early years of life synergistic effects are likely only when improvements in both feeding and psychosocial care are experienced through the actions of the primary caregivers. If this were the case, then integrated, as contrasted with combined, interventions would be necessary to achieve more than additive effects.

4. What are the potentially modifiable constraints to adoption of parenting practices that are geared to children’s developmental and nutritional needs?

The economic and social constraints that poor families experience in trying to provide adequate food and a safe environment for their children have been widely documented, and are increasingly being addressed in social and public health programs. The inappropriateness of providing nutrition and health education without also addressing family and community needs for food, health care, and infrastructure development is now widely recognized by international agencies, national governments, and nongovernmental organizations. However, what is less commonly acknowledged in program actions are other constraints to child health and well-being, which are differentially distributed within poor communities in developing countries. Among the factors that affect the type of caregiving that infants and young children receive are maternal poor health, maternal depression, physical and mental abuse, and substance abuse. These conditions are also likely to affect how caregivers respond to intervention efforts. Documenting the role of potentially modifiable constraints to improved caregiving is the first step toward developing strategies for addressing them, and should be built into efficacy trials.

A Methodological Strategy to Address the Research Questions

The basis for the research questions above includes data derived from epidemiologic studies, community intervention trials, clinical trials, and child development theory. To provide a sound basis for programs, it is essential to conduct efficacy trials to determine if interventions based on these emerging approaches have the potential to improve growth and development in conditions of endemic poverty and malnutrition. The research strategy to test these questions will require a multidisciplinary approach and a randomized research design that uses families in current programs as control groups. Thus, the baseline against which new intervention approaches should be measured are good, on-going programs that typically involve some form of food supplementation and health and nutrition education. In a series of studies, experimental groups would experience culturally appropriate instruction on specific caregiving practices for complementary feeding and child development versus a responsive parenting curriculum based on teaching families about children’s psychological and physical needs. In addition to the measurement of growth and development outcomes, data to permit identification of constraints to response would also be collected. If the results of these trials demonstrate promise, further intervention studies to address these constraints would then be in order.

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