Responsive Feeding: Implications for Policy and Program Implementation¹,²

Patrice L. Engle³* and Gretel H. Pelto⁴

³Department of Psychology and Human Development, California Polytechnic State University, San Luis Obispo, CA 93402; and
⁴Division of Nutritional Sciences, Cornell University, Ithaca, NY 14853

Abstract

In this article, we examine responsive feeding as a nutrition intervention, with an emphasis on the development and incorporation of responsive feeding into policies and programs over the last 2 decades and recommendations for increasing the effectiveness of responsive feeding interventions. A review of policy documents from international agencies and high-income countries reveals that responsive feeding has been incorporated into nutrition policies. Official guidelines from international agencies, nongovernmental organizations, and professional organizations often include best practice recommendations for responsive feeding. Four potential explanations are offered for the rapid development of policies related to responsive feeding that have occurred despite the relatively recent recognition that responsive feeding plays a critical role in child nutrition and growth and the paucity of effectiveness trials to determine strategies to promote responsive feeding. Looking to the future, 3 issues related to program implementation are highlighted: 1) improving intervention specificity relative to responsive feeding; 2) developing protocols that facilitate efficient adaptation of generic guidelines to national contexts and local conditions; and 3) development of program support materials, including training, monitoring, and operational evaluation. J. Nutr. doi: 10.3945/jn.110.130039.

Introduction

The previous articles in this series outlined the theoretical framework for responsive feeding (1) and critically reviewed research on this topic in low- and middle-income (LAMI) countries, set the standards for infant and young child feeding. During the 1990s, UNICEF recognized that children’s nutritional status was due not only to food availability and access to health care services, but also to the care the child received in the Care for Nutrition framework (4). WHO joined with UNICEF to define 12 family care behaviors that were necessary for child survival, one of which was active feeding. Active feeding was initially conceptualized as an alternative to a passive, nonresponsive, feeding style that was associated with low intake and poor growth (5). Active feeding was subsequently broadened to responsive feeding with the recognition that controlling feeding behavior overpowered children’s signals of hunger and satiety and often had adverse effects on children’s growth (6). Policy documents in the past decade have focused on the responsiveness of the caregiver to the child’s signals.

The way the child is fed (active or responsive feeding) was relatively quickly incorporated into infant feeding policies and programs. WHO and UNICEF (7,8) produced documents emphasizing the dangers of passive feeding, particularly in the context of high food insecurity. A Pan American Health Organization (PAHO)/WHO publication (9) emphasized that optimal infant feeding depends not only on what is fed, but also on how, when, where, and by whom the child is fed (5).

Responsive feeding has been recognized for its role not only in nutrient intake and growth, but also in child development. The recommendations in the PAHO/WHO publication (9) cover 3 areas: feeding interactions and styles, the feeding situation, and how to deal with child food refusal. The guidelines advise caregivers to recognize children’s signals of hunger and satiety,
not to force children to eat, and to regard mealtimes as a period of learning and love. Guidelines for responsive feeding have expanded to include the promotion of self-feeding through finger foods, attending to the child throughout the meal, and strategies to respond to food refusal. Some examples from LAMI countries are below.

Integrated management of childhood illnesses care for development. Responsive feeding recommendations were added to the Integrated Management of Childhood Illnesses Card in 2000, together with a Care for Development Module, and were modified in 2009 (11). These feeding recommendations, disaggregated by child age, include topics such as breast-feeding on demand, being responsive to cues of hunger and satiety during complementary feeding, introducing and encouraging use of finger foods, and increasing the infant’s exposure to food variety and tastes. The recommendations for responsive feeding on the growth card for the WHO Growth Standards are age-based and include adaptations from the PAHO/WHO (9) guidelines: “Do not force her to eat” and “remove distractions,” the longest list of recommendations so far. Two new recommendations were “use a separate plate/bowl” (1–2 y) and “give realistic portions depending on her age, size, and activity level” (2–5 y).

Facts for life. The most recent edition of Facts for Life includes responsive feeding recommendations not only for complementary feeding, but also for breast-feeding and for learning and development. These recommendations incorporate the WHO/UNICEF 2003 guidelines (8) and suggest that responsive feeding promotes child development. It includes recommendations such as “helping the child experiment with spoon and cup.” A gender component has been added recommending that boys and girls receive the same amount of food and mothers and fathers both play a role in feeding. Breast-feeding recommendations emphasize bonding and a close, loving relationship to promote “learning, love and interaction, which promote physical, social and emotional growth and development.”

In addition to WHO and UNICEF, responsive feeding recommendations are being implemented by many other agencies working in LAMI countries. For example, the nutrition counseling card used by CARE includes recommendations primarily designed to address problems of passive feeding and undernutrition. The card includes messages about feeding with patience, encouragement to eat, and monitoring/supervision during feeding.

Perspectives from high-income countries
Responsive feeding has been incorporated into research and practice in high-income countries, particularly among children experiencing poor growth. Research on failure to thrive and an increasing interest in early child feeding among pediatric psychologists have led to new areas of research and practice. Black et al. (13) demonstrated that children’s food intake increased with improved care, and Satter (14) operationalized the principles of responsive feeding through the “division of responsibility,” whereby parents are responsible for providing healthy food on a predictable schedule in a developmentally appropriate setting and children are responsible for the amount they eat.

Examples of programs and policies related to responsive feeding in high-income countries are discussed:

The Start Healthy Feeding Guidelines for infants and toddlers. The American Dietetic Association Guidelines (15), which appeared in 2004, mirrored many of the trends seen in the global literature, incorporating a comprehensive approach to responsive feeding. The Guidelines emphasize feeding responsiveness and the link between responsive care for nutrition and development. They incorporate Satter’s (14) work on the division of responsibility between the parent and the child. Other recommendations include recognizing the child’s developmental ability, balancing the child’s need for assistance with encouragement of self-feeding, and responding appropriately to hunger and satiety cues.

USDA Center for Nutrition Policy and Promotion. The Public Information for Families on Child Feeding published by the USDA (16) includes a Tip Sheet in which 2 of the 10 tips relate to responsive feeding by emphasizing the importance of a happy, fun meal environment, the need for a positive role model, and the dangers of force feeding and lecturing during meals.

Infant and Toddler Forum. In response to the recognition that good eating habits early in life have long-term health benefits, the United Kingdom has initiated disease prevention, health promotion, and early nutrition intervention through programs such as the Infant and Toddler Forum (17), which includes representatives from pediatrics, dietetics, and child psychology. The forum evaluates scientific evidence and translates it into messages for parents, health, and child care professionals that integrate nutritional science with social and practical issues necessary for optimal diet and feeding practices. Their recommendations and education materials include guidelines about a positive eating environment, responsiveness to children’s cues of hunger and satiety, feeding schedules and routine, and developmentally appropriate strategies to deal with food refusal.

There are many similarities between the high-income and LAMI countries in the messages provided. Both emphasize the importance of responding appropriately to cues of hunger and satiety, being a positive role model, and addressing issues related to food refusal. Two notable differences in the high-income countries are the much greater emphasis on the child’s developmental skills and the child’s autonomy and decision-making about how much to eat. One possible reason for the difference is that high-income countries are concerned about overnutrition and child development, whereas in LAMI countries, the overriding concern has been about undernutrition and poor growth.

Why has responsive feeding entered policy instruments so rapidly?
Over the past decade, responsive feeding has been incorporated into policies in both high-income and LAMI countries. Research in developmental psychology has clearly shown that increasing responsive interactions results in improved cognitive and language development (18), but research linking responsive feeding to growth is limited. Despite the relatively recent recognition that responsive feeding plays a critical role in child nutrition and the lack of effectiveness trials demonstrating that increases in responsive feeding affect growth, there has been a rapid development in the policy arena. We offer some suggestions for this phenomenon.

Despite major economic, social, and nutrition interventions, progress toward the millennium development goal to reduce undernutrition has been slower than projected. Although many factors are outside the purview of the nutrition community, the situation has motivated nutrition policy professionals and advocates to identify new intervention pathways. Expanding the focus from foods to feeding behaviors is a natural outgrowth
of this motivation. The advancement of a theoretical basis for responsive feeding (1) has provided the scientific rationale for investing in responsive feeding.

Research on causes of childhood obesity, an emerging problem in all countries, suggests that both controlling and indulgent feeding may be contributing factors (3). Nonresponsive feeding behaviors, in which parents over- or underregulate feeding without responding to child signals or dietary requirements, have been associated with poor self-regulation of feeding and increased weight gain and overweight/obesity. Responsive feeding offers an important avenue for interventions to prevent childhood obesity, and part of the explanation for the rapid incorporation of responsive feeding into nutrition interventions may be due to expectations about responsive feeding as a strategy for controlling the obesity epidemic.

Feeding problems are major concerns for health workers and child caregivers. Studies in LAMI and high-income countries show between 20 and 40% of parents are concerned about children’s food refusal, intermittent eating, or other feeding problems (19–21). Parents are often more sensitive to problems in their child’s mealtime behavior than in their growth (22).

Finally, responsive feeding messages are attractive because they are positive and effective. Caregivers can see the results of trying out suggestions and the feedback loop is short. The new behaviors often help the mother as well as the child. A child who does not eat is a logistic and emotional challenge to any caregiver. Greater success with feeding, as well as recognizing that feeding problems are common, may alleviate the caregiver’s negative experiences and increase her confidence. She may also think that she is helping her child’s development.

**Increasing the effectiveness of responsive feeding interventions: next steps**

A recurrent theme is the need for careful, well-designed research to establish a strong knowledge base on program efficacy and effectiveness. Research is needed not only for intervention content but also for implementation strategies. Three research topics of particular urgency are: improving the specificity of responsive feeding interventions for different types of feeding problems, a systematic method to adapt generic guidelines on responsive feeding to national contexts and local cultural conditions, and programmatic research to develop better tools for training, program monitoring, and operational evaluation.

**Improving the specificity of responsive feeding interventions**

The central recommendations for responsive feeding are proactive preparation, such as ensuring the availability of healthy food and a safe and comfortable environment for the child, and the caregiver’s sensitivity and response to the child’s signals (1). However, there is less information to guide decisions for specific types of feeding problems. For example, recommendations to passive feeding caregivers may include increased supervision and assistance to the child, whereas recommendations to controlling feeding caregivers may be to allow the child more autonomy and improve strategies for recognizing the child’s signals and providing encouragement. Other factors such as the child’s appetite will affect the intervention strategy. Research that leads to greater specificity in program design in relation to types of feeding problems will improve the efficiency and effectiveness of interventions.

**Adaptation of guidelines/recommendations for program development and implementation**

It is expected that responsive feeding recommendations, presented in the form of generic program guidelines, will continue to evolve as research on responsive feeding yields more precise evidence about the mechanisms through which the processes affect child growth and development. At the same time, the experiences in implementing responsive feeding programs in both high- and low-income countries document the importance of adapting programs and recommendations to national contexts and local conditions. For example, in Peru, formative research resulted in the recommendation to “feed your child with love, patience and good humor” (23) and in India, where there is little self-feeding, it led to a recommendation to “let the child try to eat by himself if he shows interest” (24). A major challenge for translating policy into effective programs is efficient and effective adaptation.

At the level of strategy development, assessing organizational options facilitates the planning process. For example, because responsive feeding is closely allied to other child development issues, nutrition and child development activities may be programmatically linked. In Europe, responsive feeding messages have been introduced into parent education interventions and focus on issues such as behavioral management strategies, parent-child interaction around food, encouragement of self-feeding, limiting force-feeding, and cognitive-behavioral strategies for food phobias (25,26). LAMI countries such as Kazakhstan and Georgia incorporated responsive feeding into their parenting programs (27).

At the program level, formative research to adapt guidelines to local cultural contexts typically faces serious resource constraints, yet without adaptation programs may fall short of their potential. One approach to local adaptation of generic guidelines is the method that was developed by the Acute Respiratory Control Program at WHO (28,29). To meet the need for an efficient method of translating policy guidelines into local programs, the program developed a successful tool for conducting local adaptation studies. Investing in formative research tools is a priority for furthering effective responsive feeding program implementation.

**Monitoring and operational evaluation**

The challenge of translating research into full-scale sustainable implementation is a major concern in nutrition and public health. Often retrospective evaluations, both formal and informal, find that impact has been diluted or even abrogated, because critical features in the intervention delivery pathway have not functioned well. The nutrition evaluation literature contains many examples that illustrate the types of problems that prevent interventions from operating as originally conceived (30).

Although there are generic management tools that a responsive feeding component could draw on, they also require local adaptation to identify the context-specific issues, not only for the initial, start-up period, but throughout the life of a program. As with all types of nutrition and health interventions, some aspects will be subject specific and require subject-specific guidelines. Subject-specific challenges for responsive feeding need to be identified and utilized in program management.

The concept of program impact pathways analysis (PIP) has been proposed as an approach for planning and monitoring interventions (31). Whereas the basic template for creating an initial PIP draws from scientific literature in the relevant (biological and social science) fields of the intervention, a PIP must be context specific and the program managers must have a...
mechanism for obtaining feedback as the project proceeds. Monitoring what is occurring along the pathway from the introduction of the intervention to its biological impact provides the means for identifying bottlenecks or nodes that need attention. The development of an empirically based, generic PIP for responsive feeding, together with guidelines for adapting it to local contexts, would be possible with the current level of knowledge. Using the PIP approach would help to determine whether an intervention was able to increase responsive feeding and whether it affected growth. Monitoring responsive feeding requires a consistent definition and common indicators. Although behaviors could be observed, indicators that caregivers can report are easier to collect. In urban Peru, caregivers were able to recall and accurately report certain behaviors such as the relative amount of child self-feeding (32). Similar research is needed in other contexts.

In conclusion, responsive feeding has been incorporated into infant and young child nutrition policies by many organizations in both high-income and LAMI countries. Recommendations vary by organization and have expanded to include more aspects over time (e.g. gender) but have retained core elements of feeding, such as caregiver responsiveness to the child’s cues of hunger and satiety. Although responsive feeding in combination with other interventions improves growth, the empirical evidence that responsive feeding interventions alone will reduce overnutrition or undernutrition is suggestive but limited (1–3). Despite the absence of effectiveness trials, the rapid incorporation into policies may reflect the ubiquity of child feeding problems, the need to address the dramatic increase in child obesity, and the appeal of promoting positive message through responsive feeding recommendations. Additional research is needed not only to develop and evaluate the effectiveness of strategies to increase growth through responsive feeding, but also to adapt messages for varied cultural contexts, as well as to monitor their impact.

Acknowledgments

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