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Caregivers' responses to an intervention to improve young child feeding behaviors in rural Bangladesh: A mixed method study of the facilitators and barriers to change

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ABSTRACT

Behavior change communications regarding child feeding have met with mixed success. The present study analyzes responses of 34 Bangladeshi caregivers seven months after they received a responsive feeding intervention. The intervention communicated and demonstrated five feeding interactions: hand-washing, self-feeding, verbal responsivity, managing refusals non-forcefully, and dietary diversity. Seventeen caregivers who adopted key behaviors addressed by the intervention and 17 who did not were compared in terms of socio-demographic variables, but more importantly in terms of their recall of the messages, their reported practice, and reported facilitators and barriers. Both those who changed and those who did not reported similar facilitators and barriers to practicing the new behaviors; there was also no difference in recall or in socio-demographic variables. Key themes identified through a constant comparative analysis helped to focus on common features of the lives of caregivers that made it easy or difficult to perform the practices. Some of these were household constraints such as poverty, shortage of time in which to complete chores, and avoiding waste and messiness; others related to the child's demands. Many caregivers misinterpreted instructions about talking to one's child in response to signals, as opposed to more common forms of supervision. Facilitators such as the child's evident pleasure and the caregiver's satisfaction did not always outweigh the barriers. Recommendations for improving interventions include helping caregivers solve problems tied to barriers and including more family members in the intervention.

Introduction

Undernutrition, which includes deficiencies of calories as well as essential vitamins and minerals (Black et al, 2008) continues to be one of the leading causes of death, morbidity and delayed development in children throughout the developing world. This includes South Asia where over 40% of children under the age of five are underweight. This rate is particularly high in Bangladesh, where the United Nations Children's Fund UNICEF (2010) estimates that 46% of children under five suffer from undernutrition. Children between 6 and 24 months of age are particularly vulnerable, as this is the period when breast milk alone is insufficient to meet their needs and they are not yet fully integrated into family diets (Black et al., 2008).

Until recently, child malnutrition has focused primarily on issues of foods and nutrients, with attention on the quality, diversity, and amount of food being offered to children. Increasingly, however, there is attention being paid to the role of caregiver feeding behaviors. A number of caregiver behaviors, including forcefulness, lack of interaction, passive and over-controlling feeding styles have been linked to negative health outcomes and poor growth (Farrow & Blissett, 2006). Recognizing the importance of feeding behaviors during the period of complementary feeding, both the World Health Organization (WHO) and UNICEF have issued guidelines in which they highlight the importance of feeding behaviors in general and responsive feeding in particular (WHO, 2003).

Programs to promote responsive feeding in community contexts are recent, and much remains to be learned about how to best design and implement them. As with many health behavior change interventions, they are not always successful (Bentley, Wasser, & Creed-Kanashiro, 2011). The research reported here examines one such intervention that was designed to improve responsive feeding behaviors in rural Bangladesh. The original study evaluated the intervention's goals of increasing hand-washing, improving the diversity of foods fed to infants and young children, and increasing

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responsive feeding interactions (Aboud, Shafique, & Akhter, 2009). While this intervention made a positive impact, it was not as successful as the research team had hoped. The aim of the present study was to identify why some behavioral messages were successfully adopted and others were not.

Changing health behavior is complex. Examining the facilitators and barriers encountered by individuals as they enact new practices may increase our understanding. Facilitators and barriers have been examined for a variety of health behaviors (Fulkerson et al., 2011; Johnson, Jackson, Guillaume, Meier, & Goyder, 2010) and are central to the Health Belief Model (HBM) of behavior change. This model proposes that individuals will change their behavior if they perceive that the benefits associated with this change outweigh the barriers to adopting the new practice (Champion & Sugg, 2008). The aim of the present study was to identify caregivers who did and did not sustain the intended practices at the five month follow-up from the original intervention, and to inquire in-depth about the barriers and facilitators that these women faced in changing their feeding behavior.

The original study

The intervention trial in Bangladesh used a cluster randomized design in which mothers attended six weekly sessions with their children of 8–20 months (see Aboud et al., 2009 for details). A social-learning strategy for behavior change was used whereby a peer educator from the village demonstrated good practices on one of the attending children and then coached the mothers as they practiced with their child. Problem solving discussions were held in which common misperceptions were raised and solutions offered by mothers were discussed. Control group mothers received general child health and nutrition information in monthly sessions using information transfer, namely providing information about foods to feed, nutritional disorders, and growth monitoring. Five months after the end of the intervention sessions, behaviors at the midday meal were observed and recorded. As described in Aboud et al. (2009) the outcomes showed that responsive feeding behaviors were adopted by caregivers who attended the intervention more than by those who attended the control program. Intervention mothers were more likely to wash their child's hands prior to the midday meal, allow their child to engage in self-feeding, and be verbally responsive to their child's signals. The common practice, as seen at the pre-test, was for children's hands not to be washed, for the mother to feed the child all mouthfuls with their own hand, and for her to show mostly forceful and controlling feeding in the face of child refusals.

In the intervention group, caregivers recalled many of the messages and practiced more of the behaviors than they had at pre-test, yet the means were lower than hoped for. For example, even though at follow-up the children were aged 15–27 months and had the psychomotor abilities to feed themselves, only 48% of the mouthfuls of food were self-fed. Fewer than 10 verbal utterances were made by mothers in response to a signal or sound from the child. Only 58% put the child in the responsive feeding position, one where the caregiver could see the child's face. Only 62% washed their child's hands with water, and very few with soap. All these practices were demonstrated and rehearsed at each of the six weekly group sessions. If children and caregivers were capable of enacting these feeding behaviors during the sessions and caregivers recalled them five months later, why were only some able to sustain them at home? The objective of the present study was to identify a subsample of caregivers who did and did not sustain the practices at the five month follow-up, and examine their reported facilitators and barriers.

Current study

Design and methods

This study used a *Sequential Explanatory Design* (Creswell, Clark, Guttmann, & Hanson, 2003), which is characterized by an initial quantitative analysis followed by a more in-depth qualitative analysis. In this design, the qualitative analysis is typically used to study surprising quantitative findings in more detail, and helps to interpret the quantitative results. Together the quantitative and qualitative results help to better understand a phenomenon or a process (Creswell et al., 2003, p. 228).

Following ethics approval from the International Center for Diarrhea Disease Research, Bangladesh, in-depth interviews were conducted with a subsample of 34 mothers who had participated in the responsive feeding intervention. Their children were now 17–29 months of age at the time of the interview. The purposively selected sample included 17 mothers who were observed during the five-month follow-up to have increased their use of the new practices during the meal and 17 who had not. The mothers came from a variety of villages but did not differ systematically in terms of good or poor peer educators – fidelity to the program was high in all villages. The interviews took place over two weeks in February 2008, seven months after the Responsive Feeding Intervention finished. The interviews were conducted by two local Bangladeshi research assistants who were blind to the mothers' follow-up data. The interview schedule consisted of a series of open-ended questions that centered on the mother's understandings, beliefs, and behaviors related to the five messages of the responsive feeding intervention: hand washing, child self feeding, responsive feeding, dealing with child's refusals, and foods to feed.

Broader questions about feeding beliefs and practices included: "How do you know if your child is not interested in food when you offer it?" and "Do children need to be threatened or forced to eat?" Questions then narrowed to focus on the five feeding messages of the intervention. These messages were: 1) *Tell children: "First you wash your hands; then you touch food"*; 2) *Self Feed: Let your child pick up the food and eat*; 3) *Be responsive: watch, listen and respond in words to your child's signals*; 4) *When a child refuses, pause- ask why. Do not force or threaten them*; 5) *Offer a variety of foods especially fish and eggs, fruit and vegetables.* Mothers were asked if they remembered any behavioral messages. Recalled messages were inquired about in-depth first, followed by messages that were not recalled, where the interviewer reminded the mother about the message and then inquired about her practice. For example, when mothers spontaneously recalled, or were reminded of the message, "*Be responsive: watch, listen and respond in words to your child's signals"* they were asked if they were able to do this behavior and how often. Mothers were then asked what made it easy or difficult to do. Interviewers were instructed to probe further after each answer to elicit as many descriptions as possible.

Method of analysis

Two approaches were used to analyze the data: content analysis (Krippendorff, 2004) to count the facilitators and barriers mentioned by each mother during the interview, and thematic analysis (Benner, 1985) to identify themes and patterns of behavior. The first section describes the method of coding and the results from the content analysis of the data. This is followed by a description of the method of coding and the results of the thematic analysis.