Practice-Based Evidence of Effectiveness in an Integrated Nutrition and Parenting Education Intervention for Low-Income Parents

Katherine L. Dickin, PhD; Tisa F. Hill, MPH; Jamie S. Dollahite, PhD

ARTICLE INFORMATION

Article history:
Accepted 25 September 2013
Available online 4 December 2013

Keywords:
Childhood-obesity prevention
Parenting education
Nutrition education
Pilot intervention
Low-income families

2212-2672/$36.00
http://dx.doi.org/10.1016/j.jand.2013.09.029

ABSTRACT
Research identifying associations between parental behaviors and children's food and activity choices and weight suggests that the integration of parenting and nutrition education holds promise for promoting healthful eating and activity in families. However, translational research leading to sustainable interventions lags behind. Development and testing of interventions within actual program contexts is needed to facilitate translation to full-scale implementation. Therefore, the goal of this pilot study was to develop and test an integrated nutrition and parenting education intervention for low-income families within the Expanded Food and Nutrition Education Program in New York State. During a 21-month period, low-income parents of 3- to 11-year-olds were recruited through usual programmatic channels by nutrition program staff to participate in a series of eight workshops delivered to small groups. A validated self-administered questionnaire was used to assess behavior change outcomes among 210 parents who completed the program. Mean scores improved significantly for most behaviors, including adult fruit and vegetable intake; adult and child low-fat dairy and soda intake; and child fast-food intake, activity, and screen time ($P<0.001$). Many parents reported eating together with children at program entry, leaving little room to improve, but about 20% reported at least a 1-point improvement (on a 5-point scale). The most frequent change was reducing how often children ate fast food and was reported by >50% of parents. Design and testing through practice-based research can facilitate development of interventions that are both feasible and likely to improve eating and activity behaviors among low-income families.
J Acad Nutr Diet. 2014;114:945-950.

INCREASING EVIDENCE OF STRONG RELATIONSHIPS between parenting practices and children's eating, physical activity, and weight status demonstrates that promotion of effective parenting is critical to efforts to prevent childhood obesity,[1-3] yet few childhood nutrition interventions reach parents directly or intensively enough to address parenting practices.[4,5] Even fewer reach low-income families who face challenging barriers to adopting healthy food and activity habits.[6] There is an urgent need for programs that can be broadly and sustainably implemented. Translational research leading to dissemination and full-scale implementation in real-life settings has lagged behind research on associations between parental influences and children's food and activity choices and weight. Green and Glasgow[7] note that the lack of attention to external validity in health practice research limits scaling up of new interventions and state that "if we want more evidence-based practice, we need more practice-based evidence."

Nutrition educators working to promote practices that support healthy child weights face the combined challenges of finding positive, relevant ways to address parenting practices within nutrition education and of identifying interventions that translate the evidence base into feasible approaches for community-based programs. The Collaboration for Health, Activity and Nutrition in Children's Environments (CHANCE) was developed in response to these challenges and is an initiative to prevent unhealthy weight gain in children by combining educational outreach to low-income parents and community collaborations to create healthier environments for children.[8] This article focuses on the educational component, a nutrition and parenting intervention developed to be feasible within current funding and program guidelines of the Expanded Food and Nutrition Education Program, a long-running government-funded national nutrition education program for low-income families.[9] Implementation of an intervention that expanded the focus of the Expanded Food and Nutrition Education Program to include parenting practices and environmental influences created the opportunity to conduct translational research and gather practice-based evidence of effectiveness and relevance to the audience.

Low-income parents of young children have reported interests in acquiring practical information on nutrition, food, recipes, and parenting provided in supportive settings using

approaches that include interaction with other parents.[4] The pilot intervention described in this article was developed to address such interests, integrating practical lessons learned by nutrition educators implementing the Expanded Food and Nutrition Education Program with research evidence on family behaviors associated with healthy child weights. Researchers collaborated closely with nutrition educators to develop and test the intervention in real-life program contexts, gathering input from educators and participants to refine the program and enhance the external validity of the research. Researchers then conducted practice-based evaluation of outcomes, assessing patterns of pre-post intervention change in reported behavior. The results presented here illustrate how interventions can be tested in program contexts to facilitate the translation of research into practice.

METHODS

Site Selection and Program Audience

Five Expanded Food and Nutrition Education Program sites in New York State were selected based on staff interest, evidence of community collaboration, and variation in county location and population characteristics. The selected counties were dispersed throughout the state and included rural, suburban, and urban communities. Intervention participants were low-income parents (including a few other caregivers, eg, close relatives responsible for child care and provision of meals) of children aged 3 to 11 years; ages when children's eating, activity, and environments are strongly influenced by parents and when children are learning to make choices that will impact lifelong behaviors. To ensure generalizability to audiences in voluntary community-based programs, study participants were recruited by program staff following usual program procedures (ie, working with collaborating community agencies to identify small groups of parents interested in programming), and not paid incentives for participation in the program or data collection. All participants gave written informed consent and all protocols were approved by the Cornell University Institutional Review Board.

Intervention

A new curriculum called "Healthy Children, Healthy Families: Parents Making a Difference!" was developed to incorporate parenting education and a socioecological perspective[10] into nutrition education delivered through the Expanded Food and Nutrition Education Program. Healthy Children, Healthy Families: Parents Making a Difference! was designed to be engaging and relevant for low-literacy, limited-resource audiences by facilitating dialogue and anchoring content in participants' experiences,[11] and by building self-efficacy and goal-setting skills.[12,13] The 8-week series of 90-minute sessions fully integrated parenting and nutrition education, as described elsewhere.[14] Briefly, Healthy Children, Healthy Families: Parents Making a Difference! promoted six nutrition and physical activity recommendations relevant to maintaining healthy weights and reducing chronic disease risk.[15-18] These evidence-based recommendations included eating vegetables and fruits; limiting high-fat, high-sugar foods; drinking water or low-fat milk instead of sugary drinks; having sensible servings; playing actively; and, limiting screen time.[15-18] Parenting practices typical of an authoritative parenting style[19,20] and relevant to making progress on nutrition and activity recommendations were grouped into four key strategies: teaching by example; helping children feel good about themselves; offering choices within limits; and creating home environments that support healthy choices. Parenting practices were presented as a set of tools to help parents interact with children in positive ways and influence children's food and activity choices. The nutrition and physical activity information was integrated with parenting education using role playing, food tasting, hands-on activities in each session to apply new skills, and active play breaks. Parents chose "take a healthy step" challenges to try at home with their families each week. Healthy Children, Healthy Families: Parents Making a Difference! was delivered by the Expanded Food and Nutrition Education Program paraprofessional community nutrition educators, who received training and supervision from professionals with graduate degrees in nutrition or closely related fields (often registered dietitian nutritionists), as well as mentoring from parenting professionals with training in human development or a related field and experience in parenting education. Food and nutrition practitioners, parenting professionals, and community nutrition educators helped to draft the curriculum, provided detailed feedback after delivering each session, and discussed revisions to improve fit with the program audience. Materials were translated and bilingual educators delivered Healthy Children, Healthy Families: Parents Making a Difference! in Spanish in two of the sites.

Outcome Evaluation

A 16-item behavior checklist was developed to assess participants' progress on the Healthy Children, Healthy Families: Parents Making a Difference! behavioral objectives, asking parents to report frequency (per day, week, or month, as appropriate) of key behaviors on 5-point Likert-type scales ranging from, for example, almost never to almost always.[21] Items were read aloud to ensure understanding and parents marked their own answers. Items covered food behaviors, including parent and child intake of vegetables, fruits, soda, low-fat milk and yogurt, and child intake of fast food. Items on parental intake of vegetables and fruits were added partway through data collection. The behavior checklist also asked parents to report the frequency of parent and child moderate physical activity and child screen time. A few items covered parental feeding behaviors, such as eating meals with the child and allowing the child to decide how much to eat. The behavior checklist was refined based on cognitive testing, and found to have good test–retest reliability (r=0.83), and convergent validity with more in-depth measures (range r=0.25 to −0.60; P<0.05), as described in detail elsewhere.[21] Brevity was essential to ensure low response burden in the program setting, so items were restricted to those 16 considered most relevant to program objectives and feasible to assess using this self-report format. Participants completed the behavior checklist at program entry and exit (in English or Spanish). Demographic characteristics (ie, race, ethnicity, sex, number of children, location, education, etc) were also assessed at program entry by self-report questionnaire. Data were collected by community nutrition educators between January 2007 and September 2008.