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Developing a Parent-Centered Obesity Prevention Program for 4-H Families: Implications for Extension Family Programming

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Abstract

Planning youth and family programming in the 21st century is daunting given family members' busy schedules. This is even more challenging when planning programs in rural areas, where there are vast distances between communities. This article discusses a research and educational outreach project that uses best practices in program development in order to create an obesity prevention program for parents of 4-H youth in a rural state. Practices discussed include the development of an interdisciplinary team, information gathered and implemented from focus groups, and the use of evaluations during the pilot-stage of the project. Implications for Extension programming are discussed.

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Introduction

For today's educators, planning and implementing new face-to-face educational programs for youth and families presents many challenges, some of which are especially unique to rural areas. In rural families, where parents are working, youth are participating in several activities in and out of school, and the family lives a long distance from the nearest town, it can be challenging to find time to attend regularly held program sessions. In addition to time barriers, there can be weather-related challenges such as severe inclement weather, when participants may not be able to travel to and from the program site. Finally, families whose primary income is agriculturally based often have economically critical farm- and ranch-related responsibilities that keep them from leaving home during certain times of the year.

In addition to these programming challenges, rural families often have fewer opportunities for participation in healthy living programs and less access to resources and services more readily

available in urban areas. The 4-Health Program is a parent education program targeting 4-H parents to assist in reducing obesity in rural youth and promoting healthy lifestyles. This article discusses the planning process used in designing a research-based program to meet the unique needs of rural 4-H families.

Background

The prevalence of childhood obesity in the United States is a widely recognized major health concern that has remained steady for a decade, and is showing no decline (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). Recent studies indicate that obesity rates for children in rural settings are as high as or higher than that of their urban counterparts (Davis, Bennett, Befort, & Nollen, 2011). Because parents (or primary caregivers) provide the most important psychosocial influences in the lives of children, making them aware of factors they can control and influence will strengthen their positive influence, ultimately leading to a healthier lifestyle and beneficial long-term health consequences for children and families (Rhee, 2008).

Parents have a large impact on the food and nutrition choices, physical activity levels, and socio-emotional development of their children, giving them an important role in the development of their children's behavior related to healthy living, self-esteem, and the prevention and treatment of weight-related problems (Rhee, 2008; Golan & Crow, 2004; Swartz & Puhl, 2003). Research has shown that interventions that include teaching parenting skills and emphasizing parenting styles can be helpful in influencing children's food and nutrition and physical activity habits (Golan 2006; Golan & Crow, 2004). Espinoza, Ayala, and Arredondo (2010) suggest that "interventions with a nutrition and physical activity component that include education, behavior modification, and parent skills training are an effective strategy for the prevention and treatment of childhood obesity" (p. 306). Golan and Weisman (2001) suggest that since parents and families have such a significant influence on their children, and parents serve as primary role models, "It is up to them to present a healthy eating style in the home and external environment, to model healthy selection and consumption of foods, and to engage in regular physical activity" (p.105). Because parents play such an important role in the lives of their children, the focus of the program described here was to develop an evidence-based educational intervention program to improve the health and quality of life of rural children and families, and to reduce the risk of obesity.

The Program Planning Process

The research clearly points to the need for a program that actively engages the family to reduce obesity in rural youth, yet developing an educational program in a format that meets the needs of busy, rural families is challenging. Getting parents excited and interested in participating in an engaged multiple-session program required research on what would and would not work for 4-H families. The project targets the parents of preteens because the research suggests this is when parents can have the most influence on the development of habits (Rhee, 2008).

The conceptual basis of the program evolved from a variety of theories and models. The social-ecological model was used through a focus on changing participants' physical activity and food environments and various health-related behaviors (Bronfenbrenner, 1979). The social-cognitive perspective was used as a basis for helping participants learn the importance of modeling, goal-

setting, and increasing self-efficacy (confidence) as an effective way to encourage behavior change (Baranowski, Cullen, Nicklas, Thompson, & Baranowski, 2003). The program format was developed using an adult learning theory that encourages programming that is relevant to participants, goal-oriented, and respectful and supportive of participants' prior knowledge and current experience (Knowles, 1973). Finally, behavior modification strategies used in this project included the SMART principle for goal-setting (Specific, Measurable, Achievable, Realistic, Timely), enhancing participant self-efficacy through use of new knowledge both in-session and at-home, and the use of a peer support network, all of which are reported effective methods to motivate individuals to make health-related behavior changes (Hongu, Kataura, & Block, 2011).

The conceptual basis of the project was developed by an interdisciplinary 4-Health team consisting of the Extension Food and Nutrition specialist, the State 4-H director, a psychologist/researcher, and a parenting consultant. The team sought and received funding by the National Research Initiative from the USDA National Institute of Food and Agriculture, and the project was approved by the university's institutional review board. The 4-Health team then added a research associate and a project director and began to develop the program format. A review of research in the area of obesity prevention and healthy lifestyle promotion determined that four topic areas were needed for the parent education program: nutrition, physical activity, body image, and parenting/family communication. The team developed the following goal and objectives to guide the program and curriculum development.

The goal of the program is to change the behaviors of parents and children in order to promote health and well-being while preventing or reducing the risk of obesity.

Three learning objectives guide the program. These include the following.

- Parents will gain knowledge about healthy diets, physical activity, and improved body image.
- Parents will enhance their understanding, skills, and roles as positive change agents for their children.
- Parents will learn and practice a series of cognitive-behavioral exercises that encourage them to practice specific skills within the family/home setting.

Finding a feasible method to implement this goal and the corresponding objectives was the challenge facing the team. Although the team was confident they could develop a quality program, creating a program that would meet the interests and logistical constraints of rural 4-H parents required going directly to parents and community stakeholders for input.

Involving Stakeholders

In order to develop an effective program, it was necessary to assess the interests, needs, knowledge, skill level, and barriers to participation of 4-H parents across the state. Focus groups have been effective for program development in rural areas in the past (Duncan & Marotz-Baden, 1999), so they were chosen as the method for initial involvement of stakeholders. Eleven focus

groups with parents of 8-12 year old 4-H children were conducted in September and October 2009 in order to learn important ideas and information to help develop the 4-Health Program. Focus groups typically have seven to 10 participants and are often used to elicit information that is helpful in the program planning process (Krueger, 1994).

Focus groups of three to seven adults were conducted in 11 counties across the state. The focus groups largely discussed the four main topics of the proposed project: nutrition, physical activity, body image, and related parenting practices. In addition to parents, other community stakeholders—e.g., teachers, a school nurse—were also interviewed in order to better understand opportunities and challenges to healthy living in rural/frontier counties in the western U.S. This process of involving stakeholders has been found to be necessary and important in program development (Davison, Workman, Daida, Novotny, & Ching, 2004; Patton, 1997).

Focus groups were facilitated by the project director, whose role was to pose questions, keep the discussion flowing, probe for more detail when appropriate, and ensure that all critical topics were covered. The research associate was also present to take detailed notes of the comments and conversations that occurred. The sessions were tape recorded so that the research associate could later listen to the tapes, further complete notes, and categorize comments into topic areas and themes. Using the notes taken and the tape recordings of the focus groups, the project director and research associate organized the participant responses into four areas (food and nutrition, physical activity, body image, and parenting), taking note of issues associated with each area.

Data were analyzed using an analytic induction approach. Qualitative research can be deductive in nature, where the researcher analyzes data to confirm or verify an existing framework (Patton, 2002). Patton asserts qualitative analysis can first be deductive, followed by an inductive process. The project director and research associate deductively examined the focus group notes for comments related to the four areas of interest: physical activity, nutrition, body image, and parenting. The pair then searched for emergent themes by using an inductive process.

Themes from the focus groups included parents being too busy to prepare more healthy meals and snacks, concerns about low levels of physical activity in the winter months and when preteens were not in a sport season, worries about the effects of peer influence and the media on their preteen's identity and health behaviors, and the experience of communication challenges as their preteens' independence increased. Many parents understood the importance of role-modeling health behaviors to their preteens but currently didn't model what they felt was ideal behavior. Finally, parents provided feedback in regard to potential program participation. They expressed interest in learning more about how to take an active role in their preteens' health, but said time was the biggest barrier to participating in a parent program like 4-Health. Parents said the program would need to be fun, interactive, and engaging in order to gain their participation, and they suggested that they would be more likely to participate if their preteens or whole family were actively involved in the program. A summary of themes and how the 4-Health Team addressed the themes are listed in Table 1.

Table 1.
Focus Group Themes and Corresponding Programmatic Interventions

Topic	Themes	Programmatic Interventions
Program Logistics	<p>Parents are busy, school and activity schedules change regularly, and parents don't have enough time to commit to weekly meetings.</p> <p><i>"There is no 'good' time for meetings; it all depends on the kids' sports and activity schedules."</i></p>	<ul style="list-style-type: none"> • Sessions are held every three weeks • Agents have the flexibility to schedule sessions as they move throughout the school year on whatever day and time works best in their county • Parents can miss two sessions and still receive program incentives (travel support funds, healthy recipes and ingredients, and a monetary program completion incentive).
Food and Nutrition	<p>Parents feel too busy to prepare more healthy meals and snacks.</p> <p><i>"You know, I have three kids involved in different things. I work nights; my husband works days... trying to fit everything in and do a meal, that's really tough. I know I'm guilty of not always cooking something – so you grab whatever's convenient – which isn't always the best nutritional value."</i></p>	<ul style="list-style-type: none"> • Food and nutrition home environment assessment activity for parents and preteens • Ingredient and recipe provided post-session, to encourage parent and preteen cooking quick, easy, and healthy meals together • Stipend provided to agent in order to have quick and healthy snacks on hand for participants
Physical Activity	<p>Parents are concerned about low levels of physical activity in the winter months, and when their pre-teens are not in a sport season.</p> <p><i>"My kids won't take the [initiative] to say 'Hey, let's go out sledding.' But if they hear or see somebody else is,</i></p>	<ul style="list-style-type: none"> • Physical activity home environment assessment activity for parents and preteens • Activities and suggestions

	<p><i>they're the first ones out the door... There has to be somebody saying 'Let's go do this.'"</i></p>	<p>provided for both indoor and outdoor activities</p> <ul style="list-style-type: none"> • Motivations, barriers, and solutions activity to address physical activity challenges
<p>Body Image</p>	<p>Parents are worried about the effects of peer influence and the media on their pre-teen's identity and health behaviors.</p> <p><i>"That one kid says that one thing... Once they get that in their head it's hard to get them to love themselves."</i></p>	<ul style="list-style-type: none"> • Body image home environment Assessment activity for parents and preteens • Scenario based activities for parents to learn how best to talk to their preteens about body image • Video clips and discussion activities for parents to learn what media messages their preteens may be receiving, and how to combat those messages
<p>Parenting</p>	<p>Parents are beginning to face communication challenges with their pre-teen's increasing independence.</p> <p><i>"My biggest challenge is to stay [keep being] that mom that my daughter will talk to."</i></p> <p>Parents understand the importance of role-modeling health behaviors to their pre-teens, but currently don't model ideal behavior.</p> <p><i>"I've always struggled with my weight, and I'm trying not to comment anymore because I don't want to pass that on to my children."</i></p>	<ul style="list-style-type: none"> • Family communication strategies, parenting tips, and scenario based activities for in-session and take-home activities • SMART planning for setting realistic and achievable personal and family goals • Exploration of the newest healthy living information, tips, and resources with practical applications for adults and preteens • Time provided every session for parents to share ideas with one another, and

		provide support for one another through discussion and interactive activities
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Curriculum Development

Following completion of the focus group process, the 4-Health team met to discuss the development of the 4-Health Program curriculum based on the findings from parents and key stakeholders. The curriculum was then developed based on research-based obesity prevention practices and practical application methods for rural families that would address the themes derived from the focus group studies. Ten county Extension agents and three national experts (one in youth development, one in nutrition and body image, and one in adult education and intergenerational programming) reviewed materials and draft curriculum. Based on those reviews, revisions to the curriculum were made.

The 4-Health team determined that 10 sessions would be appropriate and necessary to deliver the program content. Because summers are devoted to 4-H camps and fair, the traditional school year was found to be the best time to deliver the program to parents. Focus group feedback on busy schedules suggested that program sessions should be held approximately every 3 weeks. The program was designed with flexibility in the schedule of sessions to accommodate busy families and to take into account that during the winter months, sessions may need to be rescheduled due to inclement weather. The 4-Health Program was designed to be taught by county Extension agents. Family and Consumer Science or 4-H Extension agents attended a 1-day facilitator training prior to teaching the program in their counties. The training consisted of an orientation to the program; marketing and recruitment assistance; program logistics information; reviewing the Facilitator Guide, Parent Guide, and other program materials; and participating in mock program sessions.

The 10 sessions (Table 2) are outlined in both a Parent Guide for participants, and a Facilitator Guide for agents teaching the curriculum, which include learning objectives, teaching points, PowerPoint presentations, videos, and further facilitation information. Each session includes healthy living information and interactive activities on the topics of enhancing healthy food and nutrition behavior choices, engaging in a physically active lifestyle, promoting positive body image, and practicing active parenting.

Parent feedback in the focus groups stated the importance of a program that would be "fun." Therefore an emphasis was placed on interactive activities and a variety of teaching methods during the classes.

Goal-setting is done throughout the program to assist in continuous efforts towards behavior change. The goal-setting activities require participants to reflect on their current behaviors and home environment in order to create specific, realistic, and relevant plans to work towards healthier habits. Preteen and family input is gained in regard to setting goals and then incorporated into revisions of the goals as the program progresses.

In addition to in-session learning, there is a "time for action" section of out-of-session activities for use with preteens and families, because many parents suggested the involvement of their preteen

and family would be a motivator to participate. Examples of out-of-session activities include healthy cooking assignments for the preteen and parent to complete together, environment assessments that look at the family home in terms of how it promotes or inhibits healthy behaviors, a preteen grocery store scavenger hunt and nutrition label reading activity, and an online forum that engages participants in conversation outside of the session meeting time. Session-by-session learning objectives and activities are listed in Table 2.

Table 2.
4-Health Program Sessions, Objectives, and Activities

Session	Objectives—Participants will:	Activities
Program Intro & Focus Areas	<ul style="list-style-type: none"> • Learn about the program focus areas and their related behaviors: food and nutrition, physical activity, body image, and active parenting 	<ul style="list-style-type: none"> • Program focus areas and motivation activity • Introduction and worksheet on how to be an active parent • Introduction to website and participant/preteen home cooking assignments
Parenting Styles & Food and Nutrition Basics	<ul style="list-style-type: none"> • Explore different parenting styles and how they support preteen health • Learn about nutrition basics (MyPlate and nutrient-rich foods) • Create SMART plans for each program focus area 	<ul style="list-style-type: none"> • Parenting styles introduction and activity • Basics of nutrition presentation • SMART plan introduction and goal setting activity • Take-home food and nutrition environment assessment

<p>Stages of Child Development & Physical Activity Basics</p>	<ul style="list-style-type: none"> • Compare the stages of child development and how to effectively parent the preteen stage • Learn about physical activity basics for preteens • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Stages of child development information and activity • Basics of physical activity presentation • SMART planning follow-up, additions, and adaptations • Take-home physical activity environment assessment
<p>Family Communication & Mealtime</p>	<ul style="list-style-type: none"> • Learn about effective family communication and the RECIPE method (Reflective listening, Encouragement, Compromise and Cooperation, "I" messages, Practice, and Engagement) • Consider their current family mealtime practices and discuss how best to enhance them • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Family communication and RECIPE method information and discussion • Dinnertime activity • SMART planning follow-up, additions, and adaptations • Take-home grocery store scavenger hunt
<p>Beyond the Basics of Food and Nutrition</p>	<ul style="list-style-type: none"> • Learn about and discuss further food and nutrition topics • Consider how our portion choices have changed over time and how we make decisions about serving size 	<ul style="list-style-type: none"> • Beyond the basics of nutrition information and breakout discussions

	<ul style="list-style-type: none"> • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Portion distortion presentation and activity • SMART planning follow up, additions, and adaptations • Take-home internet recipe activity
<p>Body Image – The Basics & Beyond</p>	<ul style="list-style-type: none"> • Learn about body image and discuss situations that affect preteens • Understand the impact of media messages on preteens and how to proactively address the messages • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Minimize media impact activity • Body image information and discussion • SMART planning follow up, additions, and adaptations • Take-home body image environment assessment
<p>Beyond the Basics of Physical Activity</p>	<ul style="list-style-type: none"> • Learn about and discuss further physical activity topics • Consider motivations and barriers to physical activity in their family • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Motivations and barriers activity and worksheet • 100-calorie health information and activity • SMART planning follow up, additions, and adaptations

		<ul style="list-style-type: none"> • Take-home family physical activity worksheets
<p>Moving into the Teen Years & Food and Nutrition Skill-Builders</p>	<ul style="list-style-type: none"> • Learn tips and techniques to help preteens make a healthy transition into teen years • Apply the concepts of satiety and energy density to family food choices • Learn how to help preteens use the nutrition food label • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Moving into the teen years information and discussion • Satiety and energy density information and activity • Nutrition tool: label reading activity • SMART planning follow up, additions, and adaptations • Take-home label reading and hunger and satiety activities
<p>Parents as Community Change Agents & Physical Activity and Body Image Skill-Builders</p>	<ul style="list-style-type: none"> • Examine their communities and what they could do to promote healthy changes • Use scenarios and discussion to determine how best to address body image issues with their preteens • Participate in a circuit course activity • Adapt and continue with SMART plans 	<ul style="list-style-type: none"> • Community change activity • Body image how-to's activity • Circuit training exercise and take-home activity • SMART planning follow up, additions, and adaptations

		<ul style="list-style-type: none"> • Take-home preteen community change worksheet
Moving Forward with Healthy Habits	<ul style="list-style-type: none"> • Reflect on the progress made throughout the program • Learn strategies to keep up with behavior changes made throughout the program • Plan for continuation of SMART planning 	<ul style="list-style-type: none"> • Healthy preteens reflection activity • Moving forward with healthy habits presentation • Keeping up with SMART planning information and activity • Final program evaluation

Pilot Year Evaluation

During the pilot year of the program, the 4-Health team implemented both formative and summative evaluations. This allowed the team to reflect on the processes and decision making used to develop the program, determine if any knowledge changes had taken place with participants, and provide input for further revisions to the program.

Formative Evaluation

Throughout the pilot year of the program, post-session interactive webinars were conducted by program developers with all Extension agents facilitating the 4-Health Program in their county. These webinars used a curriculum review rubric that allowed agents to share what aspects of participant recruitment and retention, program curriculum and materials, delivery methods, and program logistics were effective, and which aspects could be improved or changed. They also reported on parents' participation, reactions, discussions, and feedback related to the program content, materials, and their family's engagement with the take-home materials and activities.

Based on feedback from these webinars, program and curriculum revision suggestions were compiled throughout the course of the program year. In addition to reviews from the Extension agents teaching the program in their counties, two 4-Health team program developers taught the sessions in a neighboring county to obtain first-hand knowledge of how the program, curriculum, and materials would work for participants and facilitators. At the conclusion of the first program year,

suggestions from the post-session webinars and feedback forms from participants and facilitators were discussed by all members of the program development team. Based on this discussion the Parent and Facilitator Guides and other program materials were revised as needed.

Summative Evaluation

Participants' knowledge, skills, and abilities were assessed pre- and post-session for all 10 sessions of the 4-Health Program, as well as a final program evaluation. The final evaluation contained retrospective pre/post closed-ended questions using a 5-point Likert scale and open-ended questions. Quantitative data were analyzed using paired t-tests. All topic areas in the final program evaluation quantitative measure showed statistically significant improvements pre- to post-program. Evaluation questions were focused on specific knowledge and behaviors relating to how to be active parents, how to assist preteens and families in enhancing food and nutrition behavior choices, how to engage in a more physically active lifestyle, and how to enhance positive body image for preteens and families. Table 3 provides a sample of the evaluation open-ended questions and participant comments.

Table 3.
Sample of Open-Ended Self-Evaluation Questions

Self Evaluation Question:	Participant Comments
Our family could work to reduce sedentary time.	<p><i>"As a result of this program, we try to individually and as a family get out and get moving more often. We each have our own exercise program but we also do things as a family."</i></p> <p><i>"I joined a gym, and am doing Zumba. I am taking my daughters to the Zumba classes. I am working hard to get my family to do more activity – and limiting their Facebook & television time."</i></p>
Our family could choose foods and beverages packed with nutrients.	<p><i>"The kids ask me "Is this healthy?" They are getting more aware. I am making better grocery choices and packing healthier lunches."</i></p> <p><i>"We have changed our diets to include more whole grains, more high protein snacks and more fruits and vegetables as snacks."</i></p>
Our family could understand media and the environmental influences	<p><i>"I am more aware of the way I listen to/respond to my daughter's comments about her body. It's</i></p>

<p>on the development of body image.</p>	<p><i>more of a conversation now than it was before this program."</i></p> <p><i>"Our family has discussed images of actors in movies and magazines and that the looks portrayed can be falsely developed. We talk about being comfortable with the way we are."</i></p>
<p>I could use good communication skills when interacting with my family.</p>	<p><i>"I am more determined to use positive self-talk, it's helping to build better communication with my family members."</i></p> <p><i>"This program has given me more tools (and reminded me) to be a more effective active parent, using "I" statements more often when communicating with my family."</i></p>

Implications

The experience of the 4-Health team in developing the program has several implications for Extension programming in rural areas. First, a multistep program planning process should be followed, where research on the content of the program is conducted, experts in the field are consulted, stakeholder input can be obtained, and logistics of implementation are assessed. Next, allowing adequate time to implement a pilot is essential to develop an effective program and determine where changes need to be made. A new program for 4-H parents also needs to be fun, informative, and educational in order for parents to be interested in participating. Finally, with a rural 4-H population, another necessary component is attention to logistics, specifically the ease with which families can participate, because rural families of preteens navigate great distances in their daily lives, making yet another drive to participate in a program challenging. Educators looking to develop youth and family programming today need to be cognizant of the limited time families have for participation and look for creative ways to meet this challenge. Addressing these issues when planning a program will assist in making new programs successful.

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