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Journal of National Extension Association of Family and Consumer Sciences

President's Message

It is my pleasure to greet NEAFCS members as you open the 2013 edition of the Journal of the National Extension Association of Family and Consumer Sciences (JNEAFCS). This journal is one way that we contribute to the body of knowledge about Extension and elevate the scholarly activities of our membership. Reading the journal is a way to stay current with programming, research and methodology that is focused on our scholarly work, as it is peer reviewed, research based, highlights current research, best practices and impacts for our shared work in Extension.

Think about sharing your copy of the Journal. More than ever before, it is important to share the impact that we have through our programming efforts. Please share the Journal with your administrators, local and state policymakers, advisory groups and peers. As an online publication, you can easily forward the link along with a note about the valuable work done by Extension Family and Consumer Science educators all across the U.S.

Consider what YOU have to share with colleagues in our association about the work you are doing and the impact you are making. You will probably read the articles in this publication and think that you also have something to share with others. Make it one of your professional goals for 2014 to submit an article for a future issue.

A huge thank you goes to Laura Sant and Marnie Spencer, both from University of Idaho Extension for their hard work and dedication as our journal co-editors and co-chairs of the NEAFCS Journal Editorial Subcommittee this past year. Thank you also to the members of the journal subcommittee, the peer reviewers, and to Vice President for Member Resources Susan Cosgrove (2012 – 2014) for their efforts in producing our professional publication.

Let's share the magic of NEAFCS through sharing this copy with others or consider writing a journal article for the 2014 edition!

Sincerely,

Kathleen A. Olson, President 2013-2014

National Extension Association of Family & Consumer Sciences

National Extension Association of Family and Consumer Sciences

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From the Editors

Here is your 2013 edition of the *Journal of National Extension Association of Family and Consumer Sciences* (JNEAFCS). JNEAFCS is a refereed journal with an acceptance rate of 83 percent this year. We appreciate the opportunity we have had to edit the journal this year and have learned a lot throughout the process. Unfortunately, we will not be able to continue being editors next year. Jessica Hill from the University of Georgia Cooperative Extension will serve as editor in 2014.

Consider submitting a manuscript for the 2014 edition of JNEAFCS to promote yourself or one of your programs. The submission deadline is December 31, 2013. Choose a program where you can demonstrate impact. Have your colleagues read your manuscript to get input before submitting it to ensure it is of high quality.

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Best Practices

Research

Exploring the Role of Family and Consumer Sciences Educators in Training School Nutrition Professionals on Recent Changes to School Food Requirements

Sherri M. Cirignano, Nurgül Fitzgerald, Alexandra Grenci, Luanne J. Hughes and Kathleen Morgan

Improving school food environments is necessary due to continuing high rates of childhood obesity. Providing trainings on current nutrition-related topics for school nutrition professionals is a nationally recommended strategy to promote healthy eating behaviors among children. Regional, day-long nutrition trainings for School Nutrition Professionals (n=137) were presented statewide to increase knowledge and assess implementation of strategies to improve school food environments. Pre- versus post-survey scores indicated a significant increase in nutrition knowledge ($p<0.001$). A one-year follow-up survey showed that greater than 50% of responding schools implemented three of the five learned strategies. Family and Consumer Sciences Extension Educators are well-positioned to implement trainings for School Nutrition Professionals.

Children consume more than a third of their daily energy at school (Briefel, Crepinsek, Cabili, Wilson & Gleason, 2009). Considering the high rates of childhood obesity (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010) and influence of school meals on children's food intake (Briefel et al., 2009), improving school food environments is advantageous because students can directly benefit from healthful school meals. Providing trainings that include nutrition-related topics for school nutrition professionals (SNP), including directors and managers of school foodservice and some state government employees who work in school nutrition, is a nationally recommended strategy to promote healthy eating behaviors among children (U.S. Department of Health and Human Services, 2011). Additionally, changes to the *Dietary Guidelines for Americans* (U.S. Department of Agriculture [USDA] &U.S. Department of Health and Human Services, 2010) and the National School Lunch Program as a result of the *Healthy, Hunger-Free Kids Act of 2010*, (USDA, Food and Nutrition Service, 2010) create further learning needs for SNP. Extension Family and Consumer Sciences (FCS) educators are well-positioned to provide nutrition education for SNP. As part of a USDA Team Nutrition training grant, *Growing Healthy*, the educators of the Family and Community Health Sciences Department of Rutgers Cooperative Extension provided regional trainings for SNP on nutrition-related topics and strategies to improve the school food environment.

Purpose

Program objectives were to: 1) increase nutrition-related knowledge from pre- to post-training (to a passing grade of 70% by at least 75% of participants) and 2) assess the level of implementation for learned strategies at one year post-training.

Method

Following recruitment through local and state school nutrition list-serves, free trainings for SNP were conducted in northern (n=68), southern (n=49), and central (n=41) New Jersey (n=158, representing 56 schools, 13 foodservice companies and 8 government agencies). Attendees consisted of school nutrition directors and managers, cooks, kitchen assistants, and individuals from government agencies including the Bureau of Child Nutrition and the state Department of Agriculture, which is the agency implementing the school lunch program in New Jersey. Participants were provided with lunch and continuing education credits for attending.

Single, full-day trainings in each region provided education on topics that were required by Team Nutrition. Trainings were delivered by content experts in each topic area and included 1) the application process of the *HealthierUS School Challenge*; 2) Farm to School (FTS) practices; 3) creative utilization of state-grown USDA Commodity Foods (i.e. peaches, apples and pears); 4) the *Dietary Guidelines for Americans*, provided through an updated version of the whole grain and sodium modules from the curriculum *Practical Nutrition: Pathways to a Quality School Foodservice* (North Dakota Department of Public Instruction, 2008); and 5) a statewide FTS survey review. A final interactive discussion session was held.

Pre- and post-surveys were self-administered immediately before and after the trainings to assess knowledge gained from each session. The differences in knowledge scores between pre- and post-surveys were analyzed with the McNemar test. The participants evaluated the program's content, appropriateness for their training level, relevance to their position, and whether objectives were fulfilled. They also evaluated the recipes for taste, kid-friendliness, affordability, ease of preparation, and likelihood of using the recipe. Evaluations were based on a scale of 1 to 5 (1=poor; 5=excellent). An online follow-up survey, emailed to participants one year after the training, assessed the implementation of learned strategies.

Results

Passing grades were obtained by 27.0% (n=137) of the participants on pre-surveys and 84.0% (n=125) on post-surveys. Similarly, among the 118 participants who filled out both pre- and post-surveys, 24.6% at the pre- versus 83.9% at the post-survey achieved passing grades ($p<0.001$). Participant ratings of the program content were

high (Table 1). The recipe demonstration ratings slightly varied based on the type of recipe used (Table 2).

The response rate for the one year follow-up was 29% (n=43). Respondents indicated using the knowledge and skills gained at the training to implement several strategies (Table 3). In addition to the strategies that are shown in Table 3, 10 respondents reported that their school applied for the *HealthierUS School Challenge,* and 17 reported plans to apply for it. Some of the strategies in preparation for application of the *HealthierUS School Challenge* included increasing nutrition or physical education and implementing wellness policies. Nine respondents reported implementing a new FTS practice, and 15 respondents reported plans for future implementation of a new FTS practice.

Discussion

Results indicated that participants increased their nutrition-related knowledge after the one-day training. In addition, the follow-up survey results indicated that the majority of the respondents implemented several of the strategies to promote healthier school food environments. Follow-up survey questions about implemented strategies were anchored to the trainings, although it is possible that participants may have been influenced by relevant information from other sources. However, results from other literature support the positive changes in knowledge and in foodservice practices following trainings (Roth-Yousey, Barno, Caskey, Asche & Reicks, 2009). A low response rate for the follow-up is a limitation but is consistent with what has been reported by others (Roth-Yousey et al., 2009). Additional methods, such as mailings, phone calls, or offering an incentive for completion could be considered to increase participation.

Implications for Extension

Because of the collaborative structure of Cooperative Extension, FCS educators are well-equipped to develop and offer nutrition education to SNP. FCS educators have the capacity to build local partnerships with relative ease due to the widespread presence of Cooperative Extension at the county level, and most educators already provide nutrition education. Successful SNP recruitment and training development can be achieved by collaborating with organizations such as the states' School Nutrition Associations, Food and Nutrition Service departments, other Extension professionals such as agriculture or 4-H specialists, and local schools. As a result of the *Dietary Guidelines for Americans* and the focus on healthful school meals, a wealth of topics exists to incorporate into future trainings including new school lunch rules, local food procurement, behavioral economics, *ServSafe*™ training and safe food handling. Recent recommendations by the CDC further support the implementation of trainings for SNP.

The *Grow Healthy* trainings were delivered as full day events. Depending on local resources and needs, trainings could be offered as half-day or regional events in a variety of convenient locations. With decreasing availability of funding for professionals to travel for continued education, online training through webinars could also be explored. Webinars can reach audiences who are unable to attend trainings due to distance or budgetary restraints, and can be especially useful in rural areas.

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Table 1. Participant evaluations of the *Grow Healthy* school nutrition professional trainings (n=118)

	Mean participant rating score on a scale of 1 (poor) to 5 (excellent)
Program content[a]	4.4
Appropriateness for participant's training level[a]	4.4
Relevance to participant's position[a]	4.4
Objectives fulfilled[a]	4.4
Interactive discussion session	4.3
Overall program	4.5

a = Mean rating score for the five training components (*HealthierUS School Challenge*, Farm to School [FTS] practices, USDA Commodity Foods recipe demonstration, *Dietary Guidelines for Americans*, and FTS survey review).

Table 2. Mean participant ratings of three recipe demonstrations

	Recipe 1 (n=31)	Recipe 2 (n=23)	Recipe 3 (n=29)	All (n=83)
Taste	4.6	3.6	3.2	3.8
Kid-friendliness	4.3	3.5	3.2	3.7
Affordability	4.5	3.7	3.8	4.0
Ease of preparation	4.5	3.9	3.5	4.0
Likelihood of using the recipe in school	4.4	3.1	2.9	3.5

Note. Each regional training used a different recipe: recipe 1: Apple Brownies; recipe 2: Bosc Pear Cake; recipe 3: Peach Crepes. Rating scores are based on valid responses. Scale: 1=poor to 5=excellent

Table 3. Number and percentage of schools that implemented strategies at one-year follow-up (n=43)

Strategies	Number	Percent
Increased whole grain choices	35	81.4
Decreased sodium content	26	60.5
Made changes to apply for *HealthierUS School Challenge*	24	55.8
Served USDA food in a new way	15	34.9
Adopted a new Farm to School practice	9	20.9

Note: Questions were worded as, "Based on what you learned at the training, have you…"

Research

Preparing Child Care Providers to Teach Nutrition and Physical Activity to 3- to 5-Year-Olds: Lessons Learned from the Eat Healthy, Be Active Initiative

Diane W. Bales, Charlotte Wallinga, and Thomas M. Coleman

Extension professionals play an increasingly important role in training child care providers to help prevent obesity in young children. The *Eat Healthy, Be Active* initiative prepares child care providers to teach nutrition and physical activity to preschoolers through hands-on activities. In a pilot study, providers attended Extension-led training and learned key concepts, but they varied widely in their implementation of the activities. Providers were most likely to implement activities practiced in the training. A more structured activity schedule and more in-depth training with hands-on practice are needed. Recommendations for expanding activities and providing more in-depth Extension training are discussed.

Childhood obesity has become an epidemic problem nationwide over the past several decades, and affects preschool-age children as well as older children. In 2007-2008, more than 21% of 2- to 5-year-olds were considered overweight or obese (Ogden et al., 2010). Children who are overweight are at higher risk of being overweight or obese as adults (Eriksson et al., 2001), and are more likely to develop a wide variety of health problems, including high blood pressure, elevated cholesterol, Type 2 diabetes, joint issues, sleep disturbances, and psychological issues (Fox & Trautman, 2009; Freedman et al., 2001; Puhl & Latner, 2007; Williams et al., 2005).

Promoting healthy eating and physical activity is an essential strategy to reduce the risk of childhood obesity. Early childhood is an ideal time to begin promoting these healthy habits. The Academy of Nutrition and Dietetics (formerly the American Dietetic Association) recommends that nutrition education for children be a component of child care programs (American Dietetic Association, 2011). Preventing obesity among young children in child care requires a multi-pronged approach that includes educating both child care providers and young children themselves about the importance of healthy eating and physical activity.

The *Eat Healthy, Be Active* (EHBA) initiative helps child care providers working with 3- to 5-year-olds reduce the risk of childhood obesity in the early childhood classroom. The EHBA initiative includes three components: (1) hands-on, developmentally appropriate activities on nutrition and physical activity for 3- to 5-year-olds; (2) resource kits that contain mostly non-consumable materials to make

implementation of the activities simple and cost-effective; and (3) a half-day training workshop to prepare providers to implement activities with preschoolers in early childhood classrooms.

The initiative focuses on a series of hands-on activities to help preschool-age children learn five developmentally-appropriate concepts about nutrition and physical activity: (1) eat breakfast; (2) eat a variety of foods from MyPlate; (3) stop eating when full; (4) drink water; and (5) be physically active. Activities can be incorporated into the typical early childhood curriculum areas, including large group, art, music, math, science, dramatic play, outdoor play, and children's literature. Optional resource lending kits are also available, and contain the non-consumable supplies needed to implement each activity (e.g., puppets, food models, children's books, and dramatic play materials).

The half-day training workshop, taught by Family and Consumer Sciences Extension professionals and other child care trainers, prepares providers to implement the activities with preschool-age children. During the workshop, providers are introduced to the issue of childhood obesity and learn about risk factors that contribute to obesity in young children. Trainers demonstrate key hands-on activities, encourage participants to explore the materials in the resource kits, and provide structured opportunities for hands-on practice of specific large group and free play activities. Providers leave the training workshop with a notebook containing complete plans for all activities.

Purpose

The purpose of this article is to examine the effectiveness of the EHBA initiative in helping child care providers implement hands-on activities to teach healthy eating and physical activity to preschool-age children. The article reviews key findings of an in-depth evaluation study whose goals were to evaluate the effectiveness of the EHBA training, and to document ways that providers attending the training used the activities and resource kits in their early childhood classrooms. We also discuss key implications of this evaluation study for providing effective Extension training to child care providers.

Method

To examine the effectiveness of EHBA, researchers conducted a multi-faceted pilot study of child care providers and children participating in this initiative. This article reports the findings from the portion of the evaluation study that focused on providers' participation in the EHBA training workshop, and their implementation of activities learned in training. Additional findings from the evaluation study are beyond the scope of this article.

Participants

Twenty child care providers in 3- to 5-year-old classrooms in nine licensed child care centers participated in this portion of the pilot study. Most providers were from private, for-profit centers. The licensing capacity of participating centers was between 70 and 315 children, with an average of 153. About 58% of centers participated in the USDA Child and Adult Care Food Program. Most providers had not completed degrees in early childhood education and had limited formal education to prepare them to teach young children in developmentally appropriate ways.

Measures

Effectiveness of the activities, training workshop, and resource kits was evaluated using five measures: (1) pre- and post-workshop measures of providers' knowledge and beliefs about childhood obesity; (2) providers' evaluations of the effectiveness of the training workshop; (3) providers' evaluations of the effectiveness of the activities and resource kits; (4) providers' reports of the specific activities implemented in their classrooms; and (5) observations of providers' implementation of EHBA on a specific day, collected by trained evaluators. Observational measures included documenting the specific EHBA activities that providers listed in their posted weekly curriculum plan and/or had set up in the classroom when observers arrived, as well as in-depth observations of large group and free play activities conducted by the providers.

Design

Participating child care providers attended and evaluated a half-day EHBA training workshop and completed pre- and post-workshop surveys measuring their knowledge and beliefs about childhood obesity. Following the workshop, these providers implemented activities in the classroom during a specific week (using supplies from the resource kit) and completed written evaluations of the training workshop, activities, and kit. Trained observers visited classrooms during the week that providers implemented the curriculum to observe classroom set-up, large group activities, and free play activities.

Results

Child Care Providers' Evaluation of the Training Workshop and Materials

Providers rated the EHBA training workshop as highly valuable for their professional growth, and stated that they learned important concepts and skills related to teaching healthy eating and physical activity to young children. They identified the hands-on practice with specific activities as the most effective part of the workshop, and commented that they would have liked more time to work with the materials and more practice leading the large group activities. Providers rated the activities as developmentally appropriate, helpful in teaching key concepts about nutrition and physical activity, and flexible enough to fit into their early childhood curriculum. They also stated that the resource kits were well-organized, easy to use, and helped them implement the activities more effectively. Table 1 shows providers' average ratings of the training workshop and the resource kits.

Improvements in Self-Rated Knowledge and Attitudes about Childhood Obesity

Child care providers who attended the training showed clear improvements in self-reported knowledge about childhood obesity. For example, the number of providers reporting that they knew a lot about the problem of childhood obesity increased from 21% at pre-test to 79% at post-test, and the number reporting that they didn't know anything decreased from 21% to 0%. Similarly, the number of providers reporting that they knew a lot about factors contributing to childhood obesity increased from 29% at pre-test to 96% at post-test. Similar patterns of improvement were found in knowledge and attitudes about other topics related to childhood obesity, including promoting physical activity, facilitating outdoor play, drinking water, preparing healthy foods with children, and teaching nutrition using developmentally appropriate activities. Table 2 shows the percentages of providers rating their knowledge of each topic as "don't know anything," "know a little," or "know a lot" at pre-test and post-test. Note that the percentages of providers choosing "don't know anything" or "know a little" decreased for all topics, and the percentage choosing "know a lot" increased.

Child Care Providers' Implementation of Activities

During the training workshop, providers were encouraged to select the activities that were most appropriate to implement with the children in their specific classroom. Not surprisingly, providers reported wide variation in the specific activities they implemented. All providers used at least a few of the activities, and some providers used more than 80% of the activities in their classrooms during the week of

implementation. Providers were most likely to implement the activities they had practiced during the training workshop, because those activities were most familiar.

Based on trained observers' ratings, the quality of providers' implementation of activities varied widely. Some providers did an outstanding job of highlighting the key nutrition and physical activity concepts in creative and developmentally appropriate ways. Other providers did not implement the activities in the way they learned during training. Observers noted several common challenges in the quality of implementation, including lack of advance preparation, unclear or incomplete explanations of the activities, and skipping or glossing over key concepts. Some providers reported that they did not review the activities prior to implementation, but instead relied on their memory of the activities from the training. Some providers did not use the developmentally appropriate language included, or did not actively involve children in the activities.

Discussion

Overall, child care providers in the pilot evaluation improved their knowledge, beliefs and attitudes about childhood obesity. Providers' evaluations of the training, activities and resource kits were overwhelmingly positive; however, there was wide variation in providers' ability to translate their learning and practice during the training into implementing the activities in developmentally appropriate ways for 3- to 5-year-olds. The following sections outline recommendations for revising activities and training based on the findings of this study.

Recommendations for Revising EHBA Activities

Many of the providers who had challenges implementing the activities requested a more structured approach to select specific activities for each day. We recommend developing a curriculum planning schedule, specifying a key concept for each day and specific classroom activities in different curriculum areas (e.g., large group, art, math, science, outdoor play) to reinforce that key concept.

Some providers indicated that the activity descriptions were too complicated and thus relied on memory when implementing the activities with children. We recommend creating simplified one-page reminder sheets with a shorter procedure and key language that child care providers can keep handy when implementing each activity.

Even though providers received 18 activities at the training, some requested additional activities to enable them to teach *Eat Healthy, Be Active* for multiple weeks. We suggest developing additional hands-on activities to reinforce key concepts related to healthy eating and physical activity.

Recommendations for Expanding and Improving Extension Training

One of the most important findings of this study is that hands-on practice with activities during training makes child care providers more comfortable, which increases both their willingness to implement activities and higher-quality implementation. We recommend devoting a substantial portion of training to hands-on practice of specific activities.

Because most providers in this study had little or no formal early childhood education, they needed additional training to understand their role in helping prevent childhood obesity. We recommend expanding the EHBA training into a multi-session series that provides more in-depth information about childhood obesity prevention, more discussion of developmentally appropriate ways to teach nutrition and physical activity to 3- to 5-year-olds, and more opportunities for providers to practice the hands-on activities both during training and between sessions. Based on Lanigan's (2012) findings, we further recommend that this expanded training address providers' misconceptions and promote providers' sense of efficacy in improving children's nutrition and physical activity.

Extension professionals, like child care providers, come from varied educational backgrounds. Some Extension professionals need more in-depth, hands-on training to prepare them to teach these activities and concepts in appropriate ways. We recommend that Extension professionals teaching EHBA attend a full-day train-the-trainer workshop that includes opportunities to practice and lead the activities prior to teaching them. The train-the-trainer workshop should also give Extension professionals strategies to assess providers' educational background prior to offering the training, and to adapt the training to best meet the learning needs of the specific providers participating.

Extension professionals play a crucial role in preparing child care providers to reduce young children's risk of obesity through an in-depth child care provider training. Multi-session training targeted to the educational level of providers is more likely to improve their knowledge and attitudes about childhood obesity. Training that allows for hands-on practice also increases providers' comfort with activities, and thus increases their willingness to implement EHBA activities in the early childhood classroom.

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Table 1. Providers' Ratings of the Training and Curriculum Activities (n=20)

	Average rating
I learned new ideas that I can use in my classroom	3.92
There was a good balance of theory and practical ideas	3.96
Activities helped me understand how to teach children	3.92
The training was valuable for my professional growth	3.96
Materials were developmentally appropriate for my children	3.92
The curriculum unit was flexible enough for my classroom	3.96
Instructions for activities were understandable	3.92
The sample language is useful for teaching children	4.00

Participants rated each item on a 5-point scale with 0=strongly disagree to 4=strongly agree.

Table 2. Providers' Self-Rating of Their Childhood Obesity Knowledge (n=20)

	Percent who didn't know anything		Percent who knew a little		Percent who knew a lot	
	Pre	Post	Pre	Post	Pre	Post
Problems of childhood obesity	21	0	58	21	21	79
Body mass index (BMI) and its importance	25	4	71	50	4	46
Consequences of childhood obesity	4	0	58	17	38	83
Factors that contribute to childhood obesity	0	0	71	4	29	96
Adult-child feeding dynamics	54	0	38	13	8	88
Importance of physical activity for children	0	0	50	4	50	96
Helping children identify hunger and fullness	42	4	46	17	13	79
Facilitating children's outdoor play	17	0	50	0	33	100
Ways to help families reinforce healthy eating and physical activity at home	29	0	58	33	13	67
Including physical activity in dramatic play	33	0	58	13	8	88
Children's books on nutrition and physical activity	50	13	46	50	4	38

Research

Building Food Secure Communities with Youth Farmstands: A Practical Approach to Bringing Fresh, Local Foods to At-Risk Communities

Luanne J. Hughes, MS, RD

Economic status and the proximity of markets to households can affect individual diets, including the amount of fruits and vegetables individuals consume. Programs like the Farmers' Market Nutrition Program (FMNP) attempt to reduce the economic disparity of the availability of fruits and vegetables, but do little to address accessibility issues. To address these concerns, Rutgers Cooperative Extension implemented a youth farmstand project, *Seeds to Success*, in three urban-aid communities and assessed its impact on food security and community development. Results showed that *Seeds to Success* served as a catalyst of change to support neighborhood revitalization and community food systems by addressing food security and economic development efforts.

In response to increasing rates of childhood obesity, the Centers for Disease Control and Prevention (CDC) have identified several key health behaviors to prevent obesity, including increasing intake of fruits and vegetables (CDC, 2010). Consuming a diet that is rich in fruits and vegetables is associated with a decreased risk of many chronic diseases (Thomson, 2011). Research also suggests that replacing foods of high energy density with foods of lower energy density, such as fruits and vegetables, can be an important part of a weight management strategy (Tohill, Seymour, Serdula, Kettel-Khan, & Rolls, 2004; Rolls, Ello-Martin, & Tohill, 2004). Additionally, fruits and vegetables are excellent sources of a variety of nutrients and phytochemicals.

Even though today's consumers are more aware of fruit and vegetable recommendations, this awareness has not translated into increased consumption (Produce for Better Health Foundation, 2010). Since 1986, consumption of fruit and vegetables has not changed significantly (Casagrande, Stark, Wang, Anderson, & Gary, 2007).

The Centers for Disease Control (2010) suggest that one way to increase fruit and vegetable consumption is to "improve access to retail venues that sell or increase the availability of high-quality, affordable fruits and vegetables in underserved communities." This was the inspiration for the *Seeds to Success* youth farmstand project. Despite living close to farms, residents of the targeted communities do not have easy access to local farmstands, farm markets or grocery stores that sell fresh produce.

New Jersey is one of the most densely populated states in the nation, with only 20% of its land area designated for farming. Yet, food and agriculture are New Jersey's third largest industry, bringing in billions of dollars in revenue to the state. In 2012, the state's 10,300 farms generated cash receipts totaling $1.12 billion (New Jersey Department of Agriculture, 2013). The increased population of once-rural areas creates new challenges and obstacles for farmers and residents alike.

There have been attempts to increase access to locally grown produce. However, starting and keeping retail farm markets in operation demands a great deal of attention (Jetter & Cassady, 2006; Pothukuchi, 2004) and past efforts have had limited success.

In 2003, Rutgers Cooperative Extension (RCE) of Gloucester County launched *Seeds to Success,* a youth farmstand project. The *Seeds to Success* project addressed numerous county needs in the three urban-aid communities it serves: food security, economic and community development, workplace preparedness, life skills development, improved community nutrition and health, and community service opportunities for special needs youth. The multi-faceted project had four key goals:

1. Support local farmers by creating new retail outlets for their products,
2. Increase workplace readiness skills in special needs, at-risk youth,
3. Improve life skills in special needs, at-risk youth,
4. Build food security and healthier, stronger communities by bringing in affordable, nutritious foods.

Seeds to Success targeted three at-risk communities in Gloucester County – Glassboro, Paulsboro and Woodbury. More Supplemental Nutrition Assistance Program (SNAP) recipients resided in these municipalities than in any others in the county. At least 15% of the population was at or below poverty level (United States Census Bureau, 2009). All of these communities had initiatives in place to address neighborhood revitalization (Sustainable Agriculture Research and Education, 2006).

To facilitate the purchase and consumption of fruits and vegetables, *Seeds to Success* youth farmstands accepted cash, SNAP benefits and Farmers' Market Nutrition Program (FMNP) vouchers. The FMNP was established by Congress in July 1992 to provide fresh, nutritious, unprepared, locally grown fruits and vegetables through farmers' markets to Women, Infants, and Children (WIC) program participants and qualifying senior citizens. It was also designed to expand the awareness, use of and sales at farmers' markets (USDA Food and Nutrition Service, 2013).

Purpose

The purpose of this research was to assess the ability of the *Seeds to Success* youth farmstand project to improve food security and community development in urban-aid communities.

Method

By applying the socio-ecological model (Robinson, 2008) and the approach of Food Policy Councils (Harper et al, 2009), RCE faculty and staff initiated a dialog in the three target communities to develop a diverse partnership (See Table 1.) that created and supported *Seeds to Success* (North American Food Policy Council, 2010). The project included three youth farmstands, based in three different urban-aid communities, and two mobile farmstands that visited six Housing and Urban Development (HUD) senior housing complexes throughout the county.

During the school year, *Seeds to Success* taught banking, financial basics and food/nutrition education to more than 250 special needs youth from three urban-aid Gloucester County communities. During the summer, 30 students applied this knowledge as paid employees at the youth farmstands, where students experienced the many aspects of the day-to-day operations of a retail entrepreneurial enterprise.

RCE faculty and staff directed the project; seasonal educators were hired to oversee operations at each farm stand or mobile unit; and an advisory council made up of members from each community guided the project. The farmstands operated annually over a 6- to 8-week period in July and August. They were open 3 days per week, for 6.5 hours daily. Mobile units visited each HUD complex once weekly.

Evaluations and Impacts

Because of the diverse nature of this program, a number of research projects were initiated each year to assess *Seeds to Success'* impacts. In this article, we reported exclusively on the impacts on food security and community development.

FMNP Voucher Survey. Given the popularity of youth farmstands with FMNP voucher recipients, an assessment was initiated in 2005 to determine the role of the *Seeds to Success* youth farmstands in facilitating the redemption of FMNP vouchers. A 10-question survey was developed and pilot tested prior to administration. Youth, under the guidance of farmstand managers and supervisors trained by RCE faculty, administered the survey to farmstand customers who used FMNP vouchers to pay for produce. When a customer completed a transaction using FMNP vouchers, youth requested that the customer complete a survey in exchange for a *Seeds to Success* $2.00 off coupon that could be used during the next visit.

Customer Survey. The following year (2006), youth surveyed all customers to assess community response to the *Seeds to Success* youth farmstand project. An 11-question survey was developed and pilot tested prior to administration. Youth administered the survey, using the same methodology as described previously with the FMNP voucher survey. When a customer completed a transaction, the youth requested that the customer complete a survey in exchange for a Seeds to Success $2.00 off coupon that could be used during the next visit.

Data were entered into spreadsheets by an administrative assistant and Family and Community Health Sciences Educator, both of whom completed the Rutgers University Human Subjects Certification course and were trained on data collection and entry procedures. Data were analyzed using Microsoft Excel. Descriptive statistics were used to calculate percentages and means.

Results

2005 FMNP Voucher Survey

Two hundred sixty-one WIC and senior citizen FMNP voucher recipients completed the surveys. Respondents were 88% female and 12% male. Respondents indicated that the community-based, convenient location of the farmstands made it easier to redeem FMNP vouchers. Fifty two percent (52%) of survey respondents reported being first-time FMNP voucher redeemers. Small percentages of these redeemers indicated that community-based youth farmstands facilitated voucher redemption rates. These outcomes are summarized in Table 2.

2006 Customer Survey

The following season, a random sampling of 201 *Seeds to Success* customers was initiated to assess the value of the youth farmstands in promoting community development. Respondents rated the importance of supporting local farmers, the local economy and local youth even higher than produce quality or value when asked why they shop at a youth farmstand. Those results are summarized in Table 3.

Discussion

The *Seeds to Success* project demonstrated the valuable and multi-dimensional role that youth-operated farmstands can play in at-risk communities. It was a model project that demonstrated the value of community-wide collaboration and the impact such collaborations can make on the communities they serve.

Youth farmstands are one vehicle that communities can use to create access to fresh, high-quality food in urban-aid communities. By partnering with organizations that work with these audiences (WIC, Offices on Aging, SNAP offices), youth farmstands are able to reach out and serve these consumers, bringing fresh fruits and vegetables to limited resource families, pregnant and breastfeeding women, children and seniors.

In addition to the retail enterprise itself, *Seeds to Success* demonstrated the sense of community pride and support such projects can generate. Since its inception, the youth farmstand project has slowly and steadily created a support network that has

made it part of each community. For areas experiencing economic restraints and limited growth, identifying a project that creates a sense of community makes it worthwhile.

Our FMNP and Customer Surveys indicated strong community support for *Seeds to Success* and the youth who operated the farmstands, both by collaborating organizations and consumers. Consumers cited supporting youth, their communities and farmers as motivation for shopping at the youth farmstands. Such support served as a catalyst for building stronger community food systems in under-served cities and towns. Youth farmstands created summer jobs and offered local farmers a profitable opportunity to expand their retail operations in under-served communities. Youth farmstands should be considered in community food system plans as a method to improve access to fresh food in underserved communities.

There are limitations to the survey data presented here. Youth, may have been more successful at garnering responses from customers who support the youth farmstand project than from those who do not.

While *Seeds to Success* provided increased access to fruits and vegetables, the benefits of this project reached beyond nutrition and economics. It served as a catalyst of change by supporting neighborhood revitalization and community food systems. Additionally, it provided youth an opportunity to earn money and develop life and job skills.

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Table 1. *Seeds to Success* Steering Committee Membership

School Personnel	Principals, teachers, foodservice staff, guidance counselors
Municipal Officials	Mayors, assemblymen, economic and community development representatives
Community Organizations	Fire and police department staff, civic group representatives and senior citizen groups
County Government	Departments of Health, Senior Services, Veterans' Affairs, Corrections and Roads; County Superintendent of Schools; WIC, Head Start, Housing and Urban Development (HUD) and the Workforce Investment Board; and the Gloucester County Board of Agriculture.

Table 2: Summary of Responses to FMNP Voucher Survey

Survey Question	Percentage of Respondents
Having a *Seeds to Success* youth farm stand based in their home community made redeeming FMNP vouchers easier	98%
Would not have redeemed FMNP vouchers if the *Seeds to Success* youth farm stand was not in their community	48%
Used FMNP vouchers for the first time ever at a *Seeds to Success* youth farm stand	52%
Redeemed FMNP vouchers exclusively at a *Seeds to Success* youth farm stand	64%
When asked to indicate all reasons why they chose a Seeds to Success youth farm stand to redeem vouchers, respondents indicated the following*:*	
Accessibility and convenience	54%
Employees made voucher customers feel comfortable and welcomed	51%
Liked supporting the youth of the community by shopping at the youth farmstand.	49%
Other farmstands that accept FMNP vouchers are too far away and, therefore, not easily accessible.	28%
First-time FMNP voucher redeemers were asked to indicate why they'd not previously used FMNP vouchers to purchase fruits and vegetables:	
Didn't know where to find a farmstand that accepted the vouchers until I found the *Seeds to Success* youth farmstand	18%
Didn't know how to use FMNP vouchers before visiting a youth farmstand	15%
Was unable to get to a farmstand that accepted the vouchers until a youth farmstand opened in my community.	8%

Table 3: Impact of Youth Farmstands on Community Development

Survey Question	Mean Rating
I support youth when I shop at the farmstand.	2.75
I help the local economy when I shop at the farmstand.	2.73
I buy “Jersey Fresh” (locally grown) produce whenever I can.	2.72
I hope the youth will be here next year.	2.72
I help local farmers when I shop at the farmstand.	2.71
Farmstand workers are helpful, friendly and respectful.	2.68
I get good value for the money when I shop at the farmstand.	2.65
The farmstand has an excellent variety of fruits and vegetables.	2.50
The quality of fruits and vegetables at the farmstand is excellent.	2.45
I eat more fruits and vegetables when the farmstand is open.	2.25
I have tried (or will try) a new fruit or vegetable this season.	2.10

Scale: 0=not sure, 1=not true, 2=usually true, 3=always true

Research

Assessing Barriers and Supportive Behaviors in Nutrition Education for Seniors: A Qualitative Approach

Shelly Johnson, Joey Peutz, Laurel Branen, Samantha Ramsey

By 2030, older adults will comprise 20% of the U.S. population. Ensuring nutritional wellbeing among older adults is critical in maintaining health, maximizing longevity, and decreasing the impact of chronic illness. Researchers employed a qualitative research method to identify nutrition education needs of Idaho's older population through interviews with seniors. Questions were designed by a panel of four nutrition professionals and assessed eating habits, food limitations, access to food, food preparation and cleanup, eating out, and nutrition/food preparation history. Both supporting behaviors and barriers were identified. Results include suggestions for program and curriculum development.

Older adults are among the fastest growing population segments in the United States. By 2030, older adults will comprise 20% of the U.S. population (U.S. Census Bureau, 2012). The oldest age categories are growing in numbers and proportion. This is noteworthy as those in the oldest age category often require increased levels of care and support (Vincent & Velkoff, 2010). Ensuring the nutritional well-being of older adults is critical to maintain health, increase longevity and decrease the impact of chronic illness on the aging population (Mitchell, Ash & McClelland, 2006). Effective nutrition and health education programs will aid successful aging in the older population (Sahyoun, 2002). Family & Consumer Sciences professionals within the land grant system are in a unique position to offer education to older adults in urban and rural communities.

Purpose

In 2002, University of Idaho Extension designed the Senior Extension Nutrition Program (SENP) to assist the local Area Agency on Aging's (AAA) Case Management Program with their high-nutritional risk, homebound seniors. Paraprofessionals funded through AAA provided nutrition education lessons to seniors in their homes. Since 2002, SENP has worked with over 350 seniors and offered over 2,500 home visits. The purpose of this study was to identify barriers and supports of seniors within AAA's Case

Management Program and to outline best practices for nutrition education programs for Idaho's seniors.

Method

Researchers employed a qualitative research method to identify nutrition education needs of Idaho's AAA clientele. The local AAA of Idaho compiled a list of twelve homebound older adults over the age of 65 years, six at low-nutritional risk and six at high-nutritional risk according to the Determine Your Nutritional Risk checklist (DYNR). DYNR identifies seniors at increased risk of poor nutritional health and examines eating habits, health status, living arrangements and functional ability (Nutrition Screening Initiative, 1991, 1992). The average age of the low- nutritional risk and the high-nutritional risk participants was 83.5 years and 69 years, respectively. Six participants were male and six were female. All participants lived in their own homes throughout rural Idaho.

Twenty-five interview questions were designed by a panel of four nutrition professionals and assessed eating habits, food limitations, access to food, food preparation and cleanup, eating out, and nutrition and food preparation history. The University of Idaho Human Assurances Committee approved the question design and protocol for this study. The interviews, which were conducted one on one in participants' homes, lasted 1.5 hours and were digitally recorded and later transcribed and analyzed by the nutrition researchers. Interview transcripts were analyzed using coding to disaggregate the data and to develop themes as outlined in the second edition of Qualitative Inquiry and Research Design (Creswell, 2006).

Results

Eating Habits

Several barriers to good eating habits were reported amongst high-nutritional risk older adults. These included a lack of a routine or pattern to daytime eating, very low fluid intake, and high caffeine intake. Additionally, over use of vitamins and herbal supplements was reported. Researchers found that participants had a lack of understanding both of what constituted a nutritious diet and what foods to eat to better their medical conditions.

Researchers also noted supporting behaviors related to eating habits in the low-nutritional risk older adult group. Participants enjoyed food, ate throughout the day and knew how to include healthy snacks in their diets. They were motivated to eat, understanding that food provided them with energy and made them feel stronger. Participants had a sense of control over their medical condition and/or aging situation in which they understood and applied healthy eating habits. They accepted their living

situation so that eating alone did not affect their food intake. However, eating alone did affect what foods participants chose and how they prepared foods, which will be discussed later.

Food Choices

High-nutritional risk older adults felt that they had little control in managing their medical conditions. They described being unsure what foods to choose to improve their health and were afraid to make poor choices. Chewing and swallowing problems were also mentioned as barriers to eating. Participants were unsure about asking for help to assist with their chewing and swallowing problems. Most stated that eating out at restaurants was an overwhelming task. Participants stated that they did not know what to order to compensate for their medical conditions. Other issues included feeling like it took them too long to eat, feeling embarrassed to eat in front of others, feeling that too much food was given and that it needed to be taken home, and negotiating buffets and salad bars was difficult if they had balance issues.

Access to Food

Food access is having sufficient resources, both economic and physical, to obtain appropriate foods for a nutritious diet. Participants felt that they did not always have enough money to purchase the foods they wanted or needed, lacked transportation to get to the grocery store, were unwilling to rely too heavily on services like Meals on Wheels, and lacked support from family or friends. Participants also had many barriers to access to food at the grocery store, including the inability to find certain foods, the length of time it took to purchase food, difficulty getting around the store, and feeling exhausted after shopping. Participants identified supporting behaviors such as budgeting their food dollars, using coupons, and reading the newspaper for sale items. Important abilities and resources included the ability to drive or walk to the grocery store; living in the community for a long time and feeling comfortable with the grocery store layout; using a motorized cart at the grocery store or leaning on a grocery cart to help them get around the store; and an excellent support system of family, friends or others to help them get to the grocery store.

Food Preparation and Cleanup

Male participants whose spouses had passed away had difficulty learning how to cook for themselves. Those in this situation had poor food preparation skills and a lacked motivation to prepare foods.

Other barriers to food preparation and clean up were poor kitchen design and poor placement of appliances, difficulty understanding how to use complex appliances,

and/or visual problems limiting the use of certain appliances. For example, using over-the-stove microwaves were difficult for those with strength and balance problems. Participants also had difficulty trying new recipes when they had to reduce the number of servings the recipe made.

Supporting behaviors to food preparation and cleanup were good cooking skills that participants learned in their childhood homes, experience cooking for their children and spouse, and gaining cooking skills in order to care for a spouse. A motivation toward preparing food and the understanding that food contributes to overall health were also mentioned as supporting factors to preparing foods.

Low-nutritional risk participants shared specific tools they used to make food preparation and cleanup easier. They used small appliances like crock-pots, microwaves, and clamshell type grills. They also placed appliances on counters so they were more accessible, marked often-used controls with brightly colored sticky dots, cleared counters of clutter to aid in food preparation, leaned on counters or chairs while preparing food, sat down to peel or cut food, and reduced cleanup by cutting or peeling foods onto old newspapers or bags. These participants were also interested in trying new recipes that were specifically written for one or two people.

Other Support Behaviors

Other support behaviors were participants who were motivated to make their health situation better and that accepted their medical condition and/or age. Seniors at low-nutritional risk seemed to have an overall belief that they could care for themselves and enjoyed seeing results after applying new healthy behaviors. Additional supporting behaviors were a willingness to take on new challenges and try to new things, having daily routines for eating and physical activity, using physical activity to remain strong and/or increase appetite, enjoying being outside, and enjoying being around family and seeing their grandchildren.

Discussion

The findings from this study provide valuable information regarding supporting behaviors of low- nutritional risk seniors that may be useful for nutrition education programs. The following are suggestions for program and curriculum development. Nutrition programs for seniors should focus on

- offering the program in the seniors' homes, recognizing many high-nutritional risk seniors are homebound, may lack transportation, and may also lack the motivation to travel to attend an educational program;
- empowering seniors to take control of their health status by providing information that about the aging process and health conditions;
- educating seniors to understand nutrition and how foods are linked to their health

- helping seniors develop eating routines;
- providing healthy, easy-to-prepare recipes and snacks;
- building food preparation skills and providing opportunities for repeated practice for skill development;
- providing useful daily menus and new recipes written for one or two with a few common ingredients;
- making food preparation and clean-up easier by freeing the kitchen of clutter, moving small appliances so they are more useable, labeling appliances with brightly colored dots for the visually impaired, and placing chairs around the kitchen for resting or leaning upon;
- suggesting to seniors how to use the grocery cart for balance or show them how to use a motorized cart for shopping;
- helping seniors identify when to grocery shop at less busy times;
- partnering with local grocery store managers to provide maps of their store layouts for customers;
- suggesting the use of simple appliances such as small crock-pots, clamshell type grills, microwaves, etc.; and
- helping seniors identify support systems that may include family members, friends, neighbors, local grocery stores and elder care agencies.

This list is not intended to be comprehensive but is meant to give Idaho seniors a voice in future programming efforts and to identify not only barriers but also supportive behaviors. Additional research is necessary to determine if these findings are applicable to group settings and what educational materials should be developed, such as flip charts, handouts, PowerPoint presentations, videos, etc. The findings from this study suggest that much can be done to enhance educational delivery in the homes of homebound seniors.

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Research

Training the Trainer: An Adapted SNAP-Ed Nutrition Curriculum for Adults with Intellectual and Developmental Disabilities

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Group home managers of people with intellectual and developmental disabilities (IDD) were recruited by Utah State University Extension to receive Supplemental Nutrition Assistance Program Education lessons and then teach adapted nutrition messages to their clients. The IDD clients lived in group homes and had some responsibility for preparing their own meals with the help of their group home managers. Managers and clients were both assessed for increased knowledge and intent to change behavior. Findings showed improved nutrition knowledge in both groups and intent to change behavior in managers. Teaching adults with IDD and their managers can increase nutrition knowledge and promote healthy behavior change.

The rate of overweight and obesity in adults in the United States is high at 68 percent (Flegal, Carroll, Ogden & Curtin, 2010). Adults with disabilities have an even higher percentage of obesity than the rest of the population (Yamaki & Taylor, 2005). Obesity increases risk and morbidity of chronic diseases such as cardiovascular disease, type 2 diabetes, hypertension, dyslipidemia, sleep apnea and respiratory problems (U.S. Department of Health and Human Services, 2000).

Many adults with intellectual and developmental disabilities (IDD) live in group homes where managers help care for them. The managers are gatekeepers in planning, purchasing and preparing foods offered to the clients. Managers have many responsibilities in addition to helping clients prepare and eat meals and often want to find foods that are quick and easy to prepare while being acceptable to clients. This can result in less healthy food options which are high in calories, fat, sugar, and sodium and low in essential vitamins and minerals (Humphries, Traci, & Seekins, 2004).

Many group home providers require frequent staff training due to high turnover and lack of nutrition knowledge and food skills among managers (Felce, Lowe & Beswick, 1993; Larson & Lakin, 1992). Frequent training improves managers' knowledge and job effectiveness (Wood, Luiselli & Harchik, 2007). The more health and nutrition knowledge managers have and apply, the more capable they are to teach and encourage clients to make healthier food and activity choices. Increased education may

lead to behavior changes as seen in several behavior change theories, including the Precaution Adoption Process Model and the Transtheoretical Model (Glanz, Rimer & Viswanath, 2008).

A group home manager's roles include teacher, caregiver, gatekeeper, and example to their clients. Clients learn various skills throughout their lives and learn these skills best in a natural setting (Saloviita & Lehtinen, 2001). This learning and training can often compensate for lack of formal education. Adults with IDD have varying levels of disability, so an adaptable curriculum that fits their learning needs in a comfortable and familiar environment may enhance learning.

There are few programs available to teach nutrition to adults with IDD (Humphries, Traci, Seekins & Taylor, 2008) and their caregivers. Supplemental Nutrition Assistance Program Education (SNAP-Ed) is funded by the United States Department of Agriculture (USDA) Food and Nutrition Service (FNS). It is designed to teach nutrition education that promotes health and positive behavior changes to low-income audiences, including those with IDD. SNAP-Ed is an ideal vehicle for teaching nutrition education through Cooperative Extension to those with IDD.

Purpose

The purpose of the study was to develop and evaluate the effectiveness of a SNAP-Ed curriculum specifically adapted for individuals with IDD. This was accomplished by first educating group home managers using the traditional SNAP-Ed curriculum and then training them on the adapted nutrition curriculum to teach to their IDD clients.

Method

Ten traditional SNAP-Ed lessons were adapted for higher functioning adults with IDD. A pilot study was conducted using senior dietetic students from Utah State University (USU) who taught the curriculum to 48 high functioning adults with IDD who were living in group homes and capable of making their own food choices. The IDD client's ages ranged from 18 to 58 years old. Pre- and post-tests were administered to the clients immediately before and after the lessons and again after four weeks. Results indicated significant improvements in knowledge immediately after receiving the four lessons (fruits/vegetables, breakfast, snacks, and menu planning) and significant retention of knowledge at the four week evaluation. The pilot study showed a need for additional adaptions to make the curriculum more flexible and easier to be taught by group home managers to their clients (Christensen, 2007).

Program Design

Results from the pilot study of adults with IDD were positive, but a need was seen to involve the group home managers in the nutrition education process because of their significant involvement with foods offered to their clients. This need led to adaptations to teach, involve and train the group home managers which made the program more sustainable and outreaching. These group home managers were taught a traditional SNAP-Ed nutrition curriculum where they increased their nutrition knowledge and were trained to teach the adapted nutrition curriculum to the clients with IDD. The pilot study curriculum was further refined to include photographs of food instead of clip art and the ten lessons were made into a DVD.

A graduate student contacted group homes to see if they wanted to participate in the program. SNAP-Ed Nutrition Education Assistants (NEAs) contacted participating group homes' regional directors who worked with the group home managers to facilitate the program. Each provider scheduled their group home manager lessons differently, varying from weekly to monthly lessons. The NEA taught the ten traditional SNAP-Ed lessons to the group home managers in an order they felt would be best for their audiences. Each of the ten lessons lasted approximately one hour. The NEA then taught the group home managers how to teach the adapted lessons to their clients. The lessons included a workbook with presentation slides and a basic script for each topic. The managers taught the adapted curriculum to their clients shortly after receiving the information from the NEA. Each of the ten adapted lessons included a 10-15 minute presentation, an activity, and an optional food demonstration. The clients received a workbook with the presentation slides so they could follow along with the presentation.

Data Collection

Class evaluations were given to managers at each lesson, assessing their understanding and knowledge of the topic before and after the lesson. At the conclusion of the study, a behavior checklist was given to managers to determine intent to change behavior as a result of the classes. A satisfaction survey was also given.

Clients received a pre- and post-nutrition knowledge test for each topic. A follow-up test was administered one month after the lesson to help determine knowledge retention. Each test contained three questions with pictures to assist the IDD clients.

Statistical Analysis

Paired sample t-tests were used to compare pre- and post-client tests for knowledge. Each question on the pre- and post-tests were analyzed separately and then compared collectively to the other pre- and post-tests. Paired sample t-tests were also used to assess the manager retrospective behavior checklist and retrospective

class evaluations. The manager behavior checklist was completed after the entire curriculum was taught and used a five-point Likert scale (1 = never do this behavior to 5 = always do this behavior) to indicate behaviors prior to learning the curriculum and intended behaviors after taking the classes. The class evaluations were given at each individual lesson to assess understanding. The evaluation contained two five-point Likert scales (1 = no understanding/involvement to 5 = almost complete understanding/involvement). The two scales rated the manager's understanding and knowledge of specific concepts prior to and after receiving the lesson. The responses were then averaged with a higher average meaning increased understanding and knowledge of the concepts taught.

Results

Thirty-three managers and 83 group home clients participated in the study (Table 1), although not all participants turned in completed paperwork. Managers who received group home provider's support, such as paid training or mandatory participation, were more likely to participate and return study paperwork. Manager class evaluations showed overall increased knowledge of nutrition concepts in seven of the eight lessons assessed (Table 2). All but one of those eight lessons showed statistical significance.

The manager retrospective pre- and post-behavior checklist (Table 3) also showed overall higher post scores indicating intention to make healthy behavior changes after taking the classes. Their intent to change behaviors were significant for being physically active at least 30 minutes five days a week, choosing to walk or be active in other ways, preparing meals at home at least three times a week, and eating two servings of fruit a day.

The overall client pre- to post-test mean scores showed improvements in nutrition knowledge (Table 4).Both the pre- to post-test and the pre- to follow-up test showed increased nutrition knowledge. The post- to follow-up test showed no statistical difference in nutrition knowledge scores.

Observations

The satisfaction survey given to managers aimed at obtaining feedback to improve the curriculum by assessing the managers' perceptions of the curriculum for themselves and their clients. Only three of 33 managers completed the satisfaction survey; they reported the SNAP-Ed lessons helped them and their clients learn more about nutrition. They agreed the lessons taught by the NEAs were helpful, informative, and easy to understand. Results showed that managers also found the food demonstration recipes simple to make. The managers who attended most of the lessons agreed the lessons were easy to teach and the material was easy to adapt to meet the needs of their clients.

Observations from a class demonstrated a manager engaging her clients by pointing out certain foods they enjoyed from the food group being discussed. This seemed to get clients more excited, focused, and involved. Benefits of having the managers teach the adapted curriculum rather than the NEA was that managers better knew and understood the clients' needs and level of learning. Managers also knew the clients' typical diets and areas in the lessons where more emphasis was needed. The clients also felt more comfortable around their managers, which may have been a better learning environment for them.

Discussion

This program led to increased nutrition knowledge and intent to change behavior among managers and increased knowledge in adults with IDD living in group homes. Training of group home managers may need to be repeated periodically due to high turnover. Additionally, clients would benefit from review of the lessons to improve retention.

It was difficult to get manager participation. They did not like extra paperwork required for the study, such as administering the pre- and post-tests to clients. This was a limitation to the study.

Finding Success in Training the Trainer

Even though there was an increase in nutrition knowledge, managers needed more encouragement to participate in the program. Below are ways to find success in training the managers and promoting their participation.

- Promote group home organizations to support, encourage, and show enthusiasm for the managers' participation in the curriculum. Increase manager attendance by having the curriculum taught as a requirement or paid training. Only have interested managers attend to increase active participation.
- Help managers feel comfortable teaching the classes by using a structured, yet simple curriculum with a basic adaptable script to meet the specific needs and interests of their clients.
- Get managers more excited and engaged in the lessons to help them learn more. If managers are enthusiastic, clients will be more likely to get excited and involved. This excitement could possibly lead to clients and managers encouraging each other to make healthy food and behavior changes.
- Simplify the paperwork. Have managers only fill out necessary paperwork.
- Encourage NEAs to fit the lessons to the needs of the managers as well as helping them adapt it to the needs of the clients.
- Allow flexibility in the program. Let group home providers or managers determine what will work best for their clientele. Give the NEA the freedom to teach managers individually or as a group and be able to assist managers as needed in

teaching clients. It is important that extension professionals are aware of their audiences' learning styles and adapt teaching strategies to maximize participation and learning potential (Brill, 2011).

Implications for Extension

Training the trainers is an ideal way to expand programs and make them more efficient. This study showed the benefit of SNAP-Ed program partnering with group homes to train staff to provide modified nutrition education to IDD clients, an underserved audience. Other Extension programs may use this model to broaden their reach.

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Table 1. Demographics of Participants

	Managers (N=33)		Adults with IDD (N=83)	
	N	Percent	N	Percent
Age (years)				
18-59	30	90.9	75	90.4
60+	1	3.0	8	9.6
No Information	2	6.1	0	0
Gender				
Female	29	87.9	48	57.8
Male	2	6.1	34	41
No Information	2	6.1	1	1.2
Race/ethnicity				
Hispanic/Latino	1	3.0	1	1.2
White	29	87.9	1	1.2
Native Hawaiian or other Pacific Islander	1	3.0	78	94
No Information	2	6.1	2	2.4
Receive SNAP benefits				
Yes	1	3.0	8	9.6
No	30	90.9	74	89.2
No Information	2	6.1	1	1.2
Qualify for SNAP benefits				
Yes	3	9.1	21	25.3
No	28	84.8	61	73.5
No Information	2	6.1	1	1.2
Other Assistance				
Yes	2	6.1	60	72.3
No	29	87.9	22	26.5
No Information	2	6.1	1	1.2

Table 2. Paired t-tests for group home managers class knowledge evaluations

Class	n	Pre Mean & S.D.	Post Mean & S.D.	Paired t-test: Sig. (2-tailed)
Fitness	2	3.1 (0.1)	3.0 (0.0)	0.500
Food Safety	17	3.6 (0.7)	4.3 (0.4)	<0.001
Grain	11	2.9 (0.7)	4.4 (0.4)	<0.001
Meat, Beans & Protein	14	3.2 (0.6)	4.3 (0.5)	<0.001
Menu Planning & Shopping	11	3.6 (0.7)	4.4 (0.6)	0.001
Milk & Dairy	9	3.4 (0.8)	4.6 (0.5)	0.001
MyPlate	9	2.6 (0.8)	3.7 (1.0)	0.027
Snacks	2	3.5 (0.4)	4.5 (0.7)	0.430

Rating Scale: 1 = none understanding/involvement, 2 = a little bit of understanding/involvement, 3 = average understanding/ involvement, 4 = quite a bit of understanding/involvement, 5 = almost complete understanding/involvement

S.D. (Standard deviation)

Table 3. Paired samples test for the group home manager retrospective behavior checklist (N = 7)

Behavior	Pre Mean (S.D.)	Post Mean (S.D.)	p-value
Plan meals ahead of time	3.1 (1.6)	3.6 (1.4)	0.255
Compare prices before buying foods	3.9 (1.5)	4.9 (0.4)	0.927
Do not have enough money through the end of the month	3.1 (1.3)	3.4 (1.7)	0.295
Shop with a grocery list	4.0 (1.3)	4.0 (1.5)	1.000
Refrigerate meat and dairy within two hours of shopping	5.0 (0.0)	4.4 (1.5)	0.731
Do not thaw frozen foods at room temperatures	4.1 (0.9)	3.6 (1.8)	0.823
Make food purchases based on healthy choices	4.0 (1.2)	3.7 (1.4)	0.038
Prepare foods without adding salt*	3.3 (1.4)	3.3 (1.6)	0.586
Read Nutrition Facts Labels before purchasing*	2.7 (1.4)	4.0 (1.5)	0.005
Wash hands before food preparation or eating	4.4 (1.5)	5.0 (0.0)	0.003
Choose to be physically active, at least 30 minutes 5 days a week	3.9 (1.3)	3.9 (1.2)	0.005
Choose to walk, take stairs, or be active in other ways	4.3 (1.0)	4.4 (0.8)	0.187
Prepare meals at home at least 3 times a week	4.4 (0.8)	4.6 (0.5)	0.091
Eat meals together as a family at least 3 times a week	4.3 (1.0)	4.7 (0.5)	0.013
Eat at least 3 servings of vegetables a day	4.0 (1.3)	4.3 (0.8)	0.052
Eat at least 2 servings of fruits a day	4.0 (1.3)	4.1 (0.9)	0.739
Eat at least 2 servings of dairy a day	4.1 (1.1)	4.4 (0.5)	0.255
Replace saturated and trans-fats with heart healthy fat	3.4 (1.6)	4.3 (0.8)	0.927

Rating Scale: 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Usually; 5 = Always

S.D. (Standard Deviation)

* N = 6

Table 4. Client with IDD pre to post overall mean nutrition knowledge test scores

	N	Mean (S.D.)	t	Significance (2-tailed)
Pre-Test	71	0.64 (0.26)	-4.516	< 0.001
Post-Test		0.74 (0.26)		
Pre-Test	57	0.61 (0.25)	-4.981	< 0.001
Follow-up Test		0.72 (0.25)		
Post-Test	57	0.72 (0.25)	-0.017	0.987
Follow-up Test		0.72 (0.25)		

Mean scores based on: 0 = Incorrect Answer; 1 = Correct Answer

S.D. (Standard Deviation)

Research

Nurturing Homes Initiative: Providing for Unlicensed Family Child Care Providers of Mississippi

Louise E. Davis, Michael E. Newman, Tonya Adkins, Erika Cooksey, Tonya Pickens

Nurturing Homes Initiative (NHI) was established in 2000 to provide resources and support for unlicensed, unregulated in-home child care providers in Mississippi. Education, training, and technical assistance were given to providers that offered full-day, full-year child care services to children of families meeting certain income requirements. To assess the impact of education, training, and technical assistance on the quality of these providers' programs, a pre- and post-assessment using the Family Day Care Rating Scale (FDCRS) was conducted. A paired sample t-test comparing pre- and post-assessment scores indicated that providers scored significantly higher on post-assessments than pre-assessments. Specifically, improvement was observed in each individual subscale measured by the FDCRS. This indicates that the education, training and technical assistance received by these providers did have a positive impact on the quality of their programs.

Various researchers have found that the first five years of a child's life are critical to development. Shonkoff and Phillips (2000) reported that a person's first five years impact his cognitive abilities for life. According to High (2010), events in early childhood directly contribute to brain structure and development. During these foundational years, the role of a child's primary caregiver in cognitive development cannot be overemphasized.

As an increasing number of primary caregivers enter the workforce, the need for child care has grown significantly (De Marco, 2008). The National Association of Child Care Resource and Referral Agencies (2012) reported that nearly 11 million children under the age of five spend 30-40 hours a week in some form of child care. Over half of those children attend an informal child care program, such as an unlicensed family day care facility (Liu and Anderson, 2010). The National Scientific Council on the Developing Child (2007) reported a significant lack of properly trained child care professionals.

In 2000, Vandell and Wolfe reported on the state of child care in the United States. They said, "Among child care researchers, the established view is that child care quality contributes to children's developmental outcomes, higher quality care being associated with better developmental outcomes and poorer quality care being associated with poorer outcomes for children" (p. 1).

Purpose

In 2000, the Mississippi State University Extension Service implemented the Nurturing Homes Initiative (NHI) to provide education, training, and technical assistance to unlicensed providers that offer full-day, full-year child care services to families meeting certain income criteria. The project was titled “Nurturing Homes” because that is the true goal of the program, to supply children with a homelike and comfortable environment. The lead author saw that these providers needed a support system because they were located mostly in rural areas and lacked access to educational opportunities.

Methods

The NHI was funded by and in partnership with the Mississippi Department of Human Services, Division of Early Childhood Care and Development. Program participants were recruited through brochures distributed by the Mississippi State University Extension Service and by word of mouth referrals. In Mississippi, an individual may care for up to five children in her home, if they are not related up to the third degree.

The author designed an extensive program which provided educational materials specifically for unlicensed and unregulated family child care providers. The technical assistance was designed around each subscale of the Family Day Care Rating Scale (FDCRS), a nationally normed assessment tool (Harms and Clifford, 1989). It is used to assess the strength and quality of the learning environment for young children. Reliability evidence includes both inter-rater reliability, i.e. ratings between scale evaluators, and internal consistency reliability. Three studies (Bain, 2000; Howes, as cited in Harms & Clifford, 1989; Jones & Meisels, 1987) carried out in both Michigan and Los Angeles produced median inter-rater reliability coefficients of more than 0.83 and Howes and Stewart (1987) measured internal consistency ranging from 0.70 to 0.93 based on Cronbach’s alpha.

The FDCRS assesses the learning environment’s capacity to support language development, cognitive growth, appreciation of cultural differences (multicultural education), social and emotional growth, and the health and safety of the children. Attention is also paid to the professional development of the caregivers. By using this scale, a baseline for quality in home care settings can be established that is consistent with national expectations. The FDCRS consists of six subscales containing 32 indicators. The subscales examined are:

- **Space and Furnishings for Routine Care and Learning** which examines if all furnishings meet the needs of all children based on size and age as well as the proper arrangement of play areas.
- **Basic Care** which assesses routines, procedures, sanitary practices, first aid, etc.

- **Language Development** which evaluates social talking, books available, phonics, and naming games.
- **Learning Activities** which looks at types of play available, encouraging self-help for children as well as creativity, and stresses the importance of schedules and routines.
- **Social Development** guides children's interactions with one another, assuring that multicultural, multiracial, and non-sexist materials are represented.
- **Adult Needs** reports the provider's professional development and membership in early childhood or child care professional groups.

A seventh subscale covers supplementary special needs material. The rating scale ranges from 1 to 7, with 1 being inadequate and 7 being excellent. A rating of 4.0 to 4.5 indicates average or acceptable quality.

In February 2001, NHI field technical assistants (TAs) and Extension agents were trained to use the FDCRS by the authors of the scale. NHI field TAs from the first year maintained their skills and trained new staff on the FDCRS in subsequent years. Following training, evaluators assessed each participating child care provider using the FDCRS. Each evaluator was required to meet 85% or higher inter-rater reliability before using the scale. The project staff maintained reliability by conducting reliability assessments with each other every sixth assessment. For the first nine years of program operation, NHI used this measurement to gauge program success.

A one year pilot project was implemented with 60 in-home providers from twelve counties. Participants included providers that cared for children who were primarily from low income families in addition to their own children.

Recruitment was supported by the county Extension agents. The Mississippi State University Cooperative Extension is such a well-known entity that it made it easier for people to open their doors to this program. Phone calls, announcements in church programs, radio ads, word of mouth, and PSA's all helped make people aware of the program. There has been a waiting list for the NHI since the first year of the program. Over the past 13 years, NHI has served over 1,300 providers and reached more than 6,000 children with educational programming and materials.

Once providers were enrolled in the NHI program, they were given a pre-assessment. Then, a plan of action was created with the provider. Every two to three weeks, a minimum of two hours of technical assistance was provided to these homes and included:

- One-on-one, hands-on mentoring for an average of six months, including assistance in creating homemade educational materials,
- Lesson materials and incentives (e.g., books and manipulatives) for participation in the program,

- Modeling of age-appropriate activities to demonstrate positive interactions and guidance techniques,
- Membership in an early childhood professional organization,
- Increased quality of care as measured by the Family Day Care Rating Scale (FDCRS), and
- A resource and referral system for parents who need social services and community help.

All 1,203 participants from the pilot NHI program were rated twice using the FDCRS measurement tool. The FDCRS is administered using both rater observations and interview questions with each participant if further clarification is needed on certain items. Thirty-two items are measured which reflect performance on the six subscales. The pre-assessment was conducted before in-home child care providers received any training or technical assistance provided by the NHI program. A post-assessment was administered at the end of the program. The goal was to show improvement of at least one rating point on the post-assessment. To measure in-home child care improvement based on training and technical assistance provided by the NHI project, a paired sample t-test was used to compare mean scores between pre and post scores for each of the six subscale items based on the FDCRS measurement tool, as well, a comparison between total overall scores on both the pre- and post-assessment.

Results

Post-test means on the FDCRS were significantly higher than pre-test means for all six sections over the first nine years of the project. (See Figure 1.) On five of the sections, the improvement averaged over one point on the seven-point scale. Of the 1,203 providers from whom post-test data was collected, all showed improvement.

Discussion

Program participants expressed excitement at the opportunity to improve their skills as child care providers. They reported enjoying the training sessions and educational material. Most importantly, however, family child care providers in Mississippi received the skills necessary to properly care for Mississippi's most precious commodity.

All data indicated that NHI has been successful in fulfilling its mission to improve family child care in Mississippi. Data collected from the first nine years of the program yielded statistically significant results. Child care providers have accessed training and materials through NHI that would be otherwise unavailable. The personalized in-home technical assistance provided by NHI allowed the providers to participate in training without missing work and having to travel for training.

This program has far reaching implications for Extension since education is the ultimate goal. Due to the success of the program, a Quality Rating and Improvement System was designed specifically for this audience and added during the last two years. Currently 104 providers are enrolled. Each is able to receive a scholarship for a Child Development Associate credential or other benefits such as bonus materials kits to enrich learning environments, and a star rating that will be marketable to parents.

By educating child care providers, NHI ensured that the proper developmental seeds were planted in Mississippi's children. If those seeds are properly nurtured, an endless potential for growth exists.

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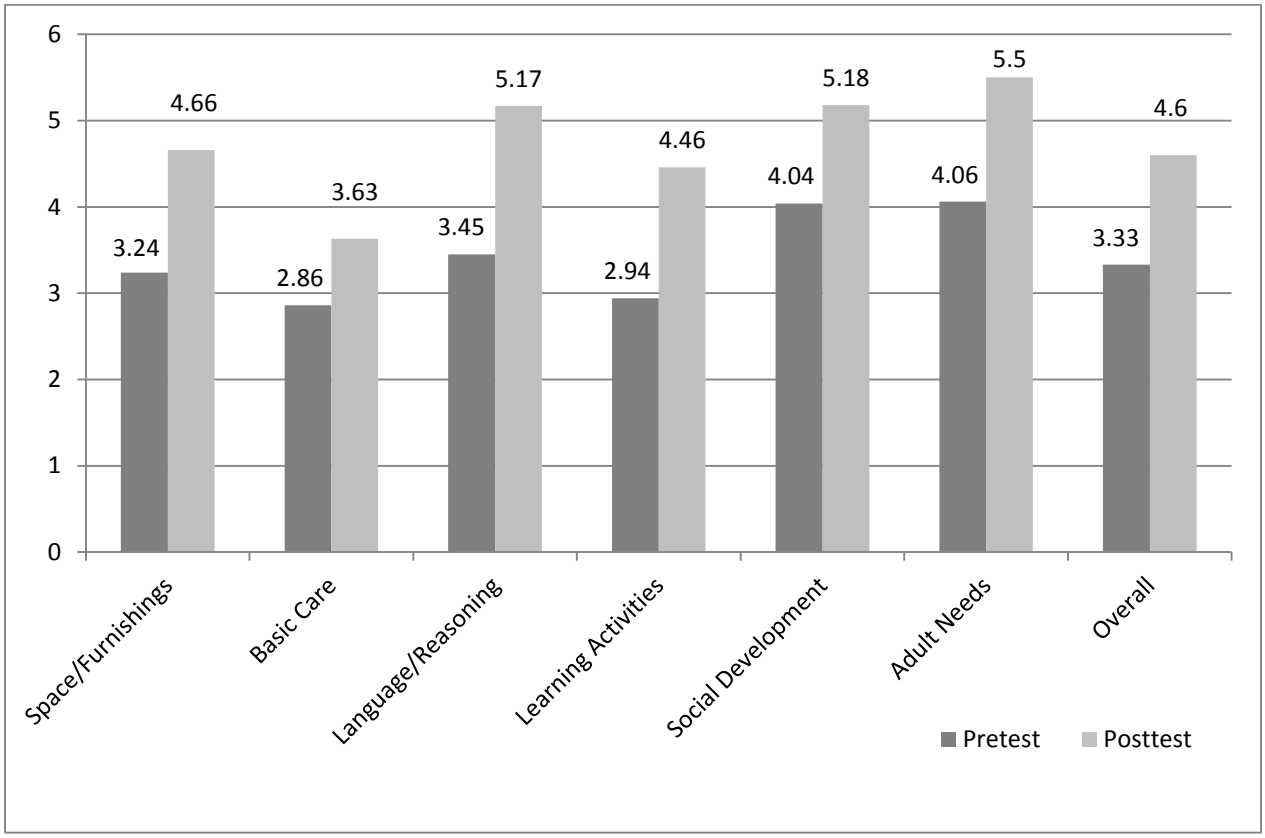

Figure 1. Pre-test/Post-test mean scores for the Family Day Care Rating Scale (FDCRS) ($p < .001$) for years 1-9.

Implications for Extension

The Farm to School Movement and Childhood Obesity: Opportunities and Questions

Dan Remley, Brian Raison, Mary Griffith

Across the country, schools are looking for opportunities to improve the health of students and staff through improvements to their food service and nutrition education. The United States Department of Agriculture Farm to School (F2S) program offers these opportunities through sourcing cafeteria food locally, campaigns, food events, farm tours, school gardens, and experiential learning activities. Preliminary evaluation reports suggest that F2S can improve student fruit and vegetable consumption. Robust evaluative studies of F2S are still needed to capture contributions to childhood obesity prevention efforts and to identify best practices. Critical thinking skills and social activism related to foods should also be investigated as contributors to nutrition outcomes related to childhood obesity.

Agriculture has become much more efficient in the past 100 years. According to the United States Department of Agriculture (USDA), around 40% of the American population produced food in the 1930s compared to only 2% today (Neilson, 2007). Food is now produced with less labor. The industrialization of our food system has laden our diets with empty calories from corn based sweeteners and fats (Neilson, 2007). As a consequence, for the first time in history, the current generation of children is not expected to live longer than their parents, despite medical advances (Olshansky, et al., 2005).

Today, one out of three children and two out of three adults are considered overweight (Finkelstein, Trogdon, Cohen, & Dietz, 2009). Overweight and related chronic diseases cost the United States $147 billion annually (Finkelstein et al., 2009). The adult population that suffers from chronic ailments like diabetes grew up in the 1960s to the 1980s. Imagine what healthcare will cost in thirty years if childhood obesity triples over that same period (Ogden, et al., 2006)? School-aged children who are obese are more likely to be obese as adults (Whitaker, Wright, Pepe, & Seide, 1997), have poor self-esteem, encounter peer rejection and other psychosocial problems (Thompson, Corwin, & Sargent, 1997; Bell & Morgan, 2000).

Although the etiology of obesity is complex, lack of physical activity and poor nutrition are primary culprits. Children spend more time at school than any other

institution (Baranowski, Cullen, Nicklas, Thompson, & Baranowski, 2002). In addition, within some populations, children receive the majority of their calories from school breakfast and school lunch (Briefel, Wilson, & Gleason, 2009). Therefore, schools have a great opportunity to promote healthy behaviors and address childhood obesity.

The National School Lunch Program (NSLP) was introduced after World War II because so many Army recruits were undernourished (Hsu, Nevin, & Tobler, 2007). The NSLP, which served over 5 billion lunches to American youth in 2012, dictates nutrition guidelines, food safety practices, and the school food bidding process, among other things, thus influencing school food procurement, food preparation, and menus (U.S. Department of Agriculture, 2013; Allen & Guthman, 2006; Poppendieck, 2011). As policymakers, parents, and other stakeholders search for solutions to the childhood obesity epidemic, school lunch and NSLP reform have been increasingly used as mechanisms to address nutrition in youth (Hsu et al., 2007).

Farm-to-School (F2S) - Reconnecting with the Soil

The national F2S effort has emerged in an attempt to connect local farms with local schools and their students. From only a handful of projects in 1996, there are now over 2,000 programs in 42 states that integrate farm fresh products into school meals (Markley, Kalb, & Gustafson, 2010). Other F2S activities include school gardens, farm field trips, and local foods at special events such as parent nights and sports banquets (Farm to School Network, n.d.). Generally speaking, F2S activities help youth become more aware of, or engaged with, the system that brings food to the table and its impact on health, the environment, communities, and society (Farm to School Network, n.d.).

F2S provides an opportunity to influence eating habits at a young age (Farm to School Network, n.d.). New nutrition guidelines are making it possible to influence these habits in a more positive way (U.S. Department of Agriculture, 2012). The 2008 Farm Bill authorized schools participating in the NSLP to specify geographic preference in school food bids, allowing greater opportunity for local procurement (U.S. Department of Agriculture, 2011).

Resources and tools to support food and agriculture-based education in the classroom have become increasingly available in the past decade (Allen & Guthman, 2006). The F2S Network website allows communities and schools to identify activities that are appropriate to meet their needs, given their resources and capacities. The website also highlights success stories and resources for each state including evaluation tools and curricula. Projects range from one day events to longer, more sustained programs (Farm to School Network, n.d.). USDA also maintains a F2S website that contains similar resources and links to federal and state grant opportunities (U.S. Department of Agriculture, 2011). These national efforts have been complemented by statewide and local F2S initiatives and programs, offering schools a wide range of resources and support to assist in implementing and maintaining F2S programs.

Preliminary impact evaluations show positive trend on health behaviors

On the F2S Network website (Farm to School Network, n.d.), legislative talking points suggest that farm to school programs are good for children:

- The choice of healthier options in the cafeteria through F2S meals results in consumption of more fruits and vegetables with an average increase of one serving per day, including at home.
- Farm fresh products taste better, and it has been shown that children prefer them to nonlocal products.
- F2S programs can help improve children's health and help alleviate current childhood health problems like obesity and early onset type II diabetes.

Preliminary reports of F2S show promise in promoting fruit and vegetable consumption by increasing the availability of these foods in the cafeteria. In California, an Occidental College research report showed students with access to a F2S salad bar increased consumption of fruits and vegetables from 90 to144% of the recommended daily servings, in contrast with a control group that consumed only 40 to 60% of the recommended daily servings of fruits and vegetables (Joshi & Beery, 2007). Another school district in California reported that students exposed to a locally sourced salad bar consumed twice as much fruit and 1.66 times more vegetables compared to schools without salad bars (Joshi & Beery, 2007). Joshi, Azuma, and Feenstra (2008) studied eleven F2S reports, including four that were peer-reviewed, that assessed changes in student fruit and vegetable consumption. Seven of the eleven studies introduced locally sourced salad bars throughout the year, two incorporated classroom activities, and one incorporated local foods in school lunches without a salad bar. The authors found increases of 25 to 84% in fruit and vegetable consumption immediately following the F2S activities. Other positive outcomes cited were improved attitudes in trying new foods and increased school lunch participation. A study in Wisconsin suggested fruit and vegetable consumption increased incrementally with each year of F2S (LaRowe, et al., 2012).

Experiential learning opportunities have shown promise as a way to engage students and improve health behaviors. School gardens, considered a F2S activity, combined with nutrition education have been shown to improve nutrition knowledge and consumption of fruits and vegetables among elementary and middle school children (Canaris, 1995; Koch, Waliczek, & Zajicek, 2006; McAleese & Rankin, 2007). One F2S project in Oregon demonstrated successful behavior shifts through a combination of environmental changes and education. Students consumed an extra one-half serving of fruit per day following a year of school garden participation, garden-based nutrition education, field trips, and taste testing (Joshi & Paxton, 2011a).

Anecdotal evidence through observations by administrators, school food service workers, teachers, and parents has suggested behavior change resulting from participation in F2S programs. For example, two state high school principals stated they noticed an increase in student interest in consuming fruits and vegetables when their schools began including locally grown and produced food options. School administrators have stated that students "get excited about eating fruits and vegetables

once they've learned about growing them." While anecdotal evidence of F2S programs' influence on behavior and eating habits has been reported through various media including newspapers and promotional videos, peer reviewed studies investigating the impact of various F2S activities on behavior are needed.

Process evaluation

F2S is a relatively new program and therefore many evaluators have focused on process and formative evaluation. Such evaluations study the different dynamics of the program development including gathering opinions from various stakeholders including teachers, foodservice workers, students, administrators and farmers (U.S. Department of Agriculture, 2011). Most report strong buy-in and support from stakeholders once programs are implemented but also report challenges related to procurement and supply, identifying curricula that meet state educational requirements, and concerns related to food safety. Some challenges include labor, time-related costs associated with preparing raw food, or arranging F2S activities. The 2010 F2S Report identifies challenges and possible solutions. Many F2S projects start with something small such as a taste testing event and grow into larger scale year-long projects such as sourcing of local foods, incorporating educational curricula, and farm visits throughout the year.

Questions for F2S Related to Childhood Obesity

Although preliminary studies suggest that F2S activities can increase fruit and vegetable consumption, their ultimate contribution to addressing the complex issue of childhood obesity above or beyond other forms of interventions are not concretely established. Few studies are more than one year in length or actually measure changes in BMI (Joshi et al., 2008). Studies examining impacts of F2S programs and obesity would most likely need large sample sizes with significant statistical power. Many F2S curricula have their own evaluation strategies and tools making data aggregation challenging (Joshi, et al., 2008). However, the University of North Carolina developed a F2S evaluation tool kit which includes a valid and reliable instrument to measure fruit and vegetable consumption in cafeterias (Joshi & Paxton, 2011b; Paxton, Domel-Baxter, Fleming, & Amerman, 2011). As more research is published, meta-analytical tools might be used to examine overall impact but most importantly to identify which F2S program strategies are most cost effective at improving nutrition outcomes related to childhood obesity. Also, determining the most effective age-specific program strategies should be considered. For example, research suggests that school garden activities are effective at increasing fruit and vegetable consumption with elementary and middle school students, but are they effective with teens? What combination of activities and program lengths are most effective in terms of impact and feasibility? What are the most effective types of short-term or long-term programs? Can F2S enhance and support other types of evidence-based childhood obesity interventions

(Seo & Sa, 2010; Zenzen & Kridli, 2009; Gonzalez-Suarez, Worley, Grimmer-Somers, & Dones, 2009)?

Opportunity for Extension: How F2S Promotes Critical Thinking Skills and Engagement

F2S programs might be unique from other types of nutrition interventions in that they promote critical thinking skills related to food systems (production through consumption). In addition to health consequences, extension educators specializing in youth development, family and consumer sciences, agriculture, and community development can work collaboratively to help youth understand the social, environmental, and economic consequences of the foods they consume. Greater understanding and awareness of food production systems may increase the likelihood that youth will adopt different eating habits. One source suggests that youth might eat the recommended smaller portions of meat after considering the implications of resource-intense western diets on food insecurity in a world expecting nine billion people in 2050 (eXtension, 2012).

As mentioned earlier, engaging students in school gardens might also positively influence healthy behavior. Social Cognitive Theory and the Social Ecological Model suggest that individuals are influenced by their friends, families, schools, communities, and policies of society (McLeroy, Bibeau, Streckler, & Glanz, 1988; Bandura, 1998). In addition, individuals can influence their environments. F2S activities may engage students in the food system through various activities including school gardening, participating in farmers' markets as volunteers or as entrepreneurs, helping at a food pantry, or profiling the food systems in their communities. While many F2S programs operate with objectives of encouraging community development through youth engagement, the influence of F2S programs on these activities has not been studied (Allen & Guthman, 2006). F2S programs may inspire students to advocate for healthier choices in their cafeterias or their communities, but more research on F2S impact on youth engagement is necessary to assess the potential resulting community health benefits.

Summary

In times of limited resources in education, extension educators and public health practitioners need to consider the most cost effective strategies for addressing childhood obesity. The Centers for Disease Control and Prevention (CDC) identifies a number of approaches that can be used by schools and communities, including F2S (Centers for Disease Control and Prevention, 2013). Although F2S may have environmental, economic, and societal impacts in terms of addressing childhood obesity, the activities need to be considered in the context of other evidence-based strategies. Meta-analytical studies recommend that effective childhood obesity interventions are multifaceted including dietary habit modification, physical education

modification, and parental involvement (Seo & Sa, 2010; Zenzen & Kridli, 2009). Involving food service personnel is also thought to be beneficial (Zenzen & Kridli, 2009) in offering healthier foods. F2S programs should consider best practices, such as involving parents, to establish a sustained and impactful program.

The overall goal of implementing a F2S educational effort is to help students begin to gain an awareness of and appreciation for their food. This may lead to a lifetime of interest in taking an active, participatory role in their personal health and the wellbeing of their communities. In this context, F2S might contribute to the overall improvement of public health. Robust evaluations are needed to determine F2S curriculum impact but also best practices related to obesity. In an integrated meta-analytical review of childhood obesity programs, Zenzen & Kridli (2009) found improvements in nutrition and physical activity behaviors but not BMI. The authors recommend that future evaluations should measure BMI, be long enough to influence BMI, use an experimental design and be theory based. The authors conclude that since interventions lasted an average of eight months, they were not long enough to impact BMI. A recent study found that a two year intervention was effective at maintaining obesity prevalence as compared to a control (Hollar, Messiah, Lopez-Mitnik, Hollar, & Almon, 2010). In summary, robust F2S evaluations should be large, use quasi-experimental designs, measure BMI in addition to health behaviors, be long enough to affect BMI, and be theory-based. We recommend that F2S evaluations also need to examine unique outcomes such as critical thinking skills, engagement and social activism related to food systems.

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Best Practices

Teaching Nutrition to English Language Learners: A Model for Creating Long-Lasting Extension Partnerships and Reaching Diverse Audiences

Melanie D. Jewkes, Sarah Gunnell, Heidi LeBlanc, and Debra Christofferson

Extension educators are challenged by recruiting and sustaining audiences, particularly audiences whose first language is not English. To minimize these challenges, SNAP-Ed educators worked with The Humanitarian Center, a work-training facility where adult refugees participate in English Language classes and job skills training. Basic nutrition classes were provided to 4,199 refugee participants from March 2011 to October 2012, reaching a large, diverse and underserved audience. An effective partnership was formed with the center because goals of each entity overlapped. Ideas for implementing other Extension and family and consumer sciences programming in English-learning classes are discussed.

Since the creation of Cooperative Extension in 1914, its mandate has been to help people help themselves by taking the university to the people, and, therefore, serve the underserved (Rasmussen, 1989). One underserved sector is refugees. Refugees are often in need of many social services, and Extension is a valuable resource to meet their needs. However, it can be difficult to reach refugees due to challenges in marketing, recruiting, and delivering programs to limited-English speaking populations. A key to success in Extension programming is to connect with and build appropriate long lasting partnerships with other agencies that have similar goals (Bender & Bull, 2007; Gillespie, Gantner, Craig, Dischner, & Lansing, 2003; Norris, 2012; Petty, et al., 2010; Pritchett, Fulton & Hine, 2012). “Partnerships are an integral part of any formula for Extension's success. Our challenge, as [Family and Consumer Sciences (FCS)] professionals, is to build a framework and set the direction for the continual use of creative and effective partnerships” (Buchanan, 1986). Agencies can “provide the effective conduit for reaching clientele, while Extension educators develop programming that is government funded” (Pritchett, et al., 2012).

Especially in a time of declining resources and decreasing funding, building partnerships is an important device to extend resources in order to meet needs of clients, deliver programs to a larger audience, and enable program sustainability (Greene, 2006; Petty, et al., 2010; Pritchett, et al., 2012). This article details an effective method of partnering with The Humanitarian Center, a work-training facility that provides English Language Learning classes to reach diverse audiences through the Utah State

University Supplemental Nutrition Assistance Program Education (SNAP-Ed) in urban Salt Lake County.

Purpose

According to agencies that work with refugee populations, refugees are in need of basic nutrition and food safety education and cooking skills (Burns, 2004; Dharod, Croom, Sady, & Morrell, 2011; Hadley, Patil & Nahayo, 2010; Willis & Buck, 2007). The SNAP-Ed program has the expertise to provide nutrition education that the center lacks. SNAP-Ed formed a strong partnership with the center, which helped minimize SNAP-Ed's challenges with recruiting and reaching diverse and underserved audiences and the center's challenges with teaching needed information. The purposes of this article are to share how the creative, on-going partnership with The Humanitarian Center was used to teach SNAP-Ed classes to adult refugees and demonstrate how it can be an effective model to benefit other FCS programming. In addition, implications for working with limited-English speaking participants are provided.

Method

The Utah State University SNAP-Ed program delivers nutrition education to low-income audiences. SNAP-Ed focuses on educating participants on eating well with limited resources. Education is based on the current U.S. Department of Agriculture (USDA) *Dietary Guidelines for Americans* (U.S. Department of Agriculture, 2010) and MyPlate (U.S. Department of Agriculture, n.d.), using the Utah SNAP-Ed Food $ense Basics curriculum. This section details methods of delivering SNAP-Ed classes to participants of the center.

Location and Audience

The SNAP-Ed program made connections with The Humanitarian Center that is located in the most populous county in Utah. The center provided adult refugees with four hours of work skills training and four hours of English skills instruction five days a week (Vogel-Ferguson, 2011). The center's goals included training refugee participants to enter the workforce and gain skills for everyday life (Vogel-Ferguson, 2011).

Based on the *Humanitarian Center Program One Year Evaluation* (Vogel-Ferguson, 2011), compiled using intake forms, outcome data and surveys, participants enrolling in the worksite-training program had to meet certain criteria. Participants were required to be 1) 18 years of age or older, 2) low-income, 3) receiving case management through a refugee resettlement agency, 4) lacking proficiency in English skills, 5) able to work Monday through Friday from 7:00 a.m. to 4:00 p.m., and 6) in general good health. Of the 101 participants in the English-learning program, 71%

(n=72) of the refugees at the time the partnership began had been in the United States for less than two years prior to enrolling in the work-site training program. Refugees came from 17 Asian and African countries and spoke 19 different languages. Prior to arrival in the United States, 40% (n=40) had received one year or less of formal education.

Refugees "graduate" from the program by gaining full-time employment or completing 12 months of work training and English-learning, so refugees entered and exited the program continuously. The Humanitarian Center split refugees into one of four English-learning classes based on their literary skills in their primary language. Group 1 had the least amount of literary skill in their primary language, while group 4 was the most literate. The grouping of participants into similar language skills facilitated group learning and helped educators teach on the same level. Each group had approximately 25 adults. Due to income qualifications, 100% of the participants had incomes at or below 185% poverty level and therefore met the qualifications for SNAP-Ed benefits (U.S. Department of Agriculture, 2012).

Educators, Curriculum, and Classes

Nutrition Education Assistants (NEAs) with the Utah SNAP-Ed program began teaching at the center for a 12-week study in connection with a student's dissertation in 2011. Each of the four NEAs in Salt Lake County was certified with the National Nutrition Paraprofessional Certification Program (Christofferson, Christensen, LeBlanc, & Bunch, 2012). To prepare the NEAs to educate the target audience, training was provided from the English Language educators at the center and a representative from the Utah State Office of Refugee Services. Ideally, Extension programming would be delivered in the primary language of the learner to better ensure retention of information (Bairstow, Berry & Driscoll, 2002). However, due to the goals of the center to teach English and prepare participants for everyday life in a predominantly English-speaking society, SNAP-Ed classes were taught in English.

The NEAs taught a weekly one-hour nutrition class and food demonstration to each of the four English-learning classes at the center for 12 weeks. At the conclusion of the 12-week study, the center and SNAP-Ed recognized great benefits in continuing the partnership beyond the dissertation study and continued teaching a one-hour class every other week. During the study, SNAP-Ed classes were based on the USDA 2005 *Dietary Guidelines for Americans* (U.S. Department of Agriculture, 2005). At the end of the study, the new USDA 2010 *Dietary Guidelines for Americans* (U.S. Department of Agriculture, 2010) were released and used as the basis of the curriculum, as seen in Table 1.

To maximize learning, NEAs used a variety of teaching styles, including spelling words and writing recipes, having participants repeat words, and using a variety of visual aids. A food demonstration was also used to appeal to sensory learning techniques, such as smelling, tasting, and touching. Funding for the food demonstration supplies was provided by SNAP-Ed and the center.

Results

The authors found that partnering with The Humanitarian Center was an effective way to maintain audiences without the challenges of recruiting and reaching diverse audiences and the limitations of teaching in languages other than English. At the conclusion of the original 12-week study, both the English teachers and the English learners saw the benefits of continuing a partnership with SNAP-Ed, as participants were learning practical nutrition and food preparation skills in English. SNAP-Ed continues to teach each of the four groups a one-hour class every other week.

From March 2011 to October 2012, the SNAP-Ed program in Salt Lake County taught 197 classes to 4,199 diverse participants (31.0% African or Black, 58.4% Asian or Pacific Islander, 5.2% Hispanic, 1.5% Caucasian, and 3.9% unreported) at the center. These participants were taught without any further recruiting. Due to the nature of the center, the same participants received all the classes until graduating from the center's program. A new set of participants then participated, ensuring a steady, yet rotating, audience over time. Partnering with the center increased the SNAP-Ed program's participant numbers by 69.8% from 2010 to 2012 (1,764 adults in 2010, to 2,996 adults in 2012). Additionally, this program greatly increased the diversity of SNAP-Ed participants from 35% ethnicities other than white in 2010 to 81% ethnicities other than white in 2012. The increase in diverse audiences occurred without any additional burdens on SNAP-Ed funding. In addition, steady bi-weekly classes provided a reliable workload for NEAs, which aided in grant and program planning. Overall, this partnership with the center has been a mutually beneficial situation that has helped both parties reach their respective goals.

Discussion

Strengths and Weaknesses of the Partnership

Partnering with the center provided a means to consistently deliver SNAP-Ed to an underserved audience. The NEAs could rely on the same number of participants for class supplies and could reach a large number of the target population at once. In return, the center could rely on the NEAs to provide 1-hour of nutrition and cooking education within the English-learning classes without providing extra time or facility space. Grouping the classes according to language ability also helped the NEAs, as having all language abilities in one group would have presented other teaching challenges. The majority of the participants were enrolled in the center's program for one year, which enabled the classes to build over time. However, the group had some turnover, as participants could enter and exit the program continuously (Vogel-Ferguson, 2011). It was necessary for the NEAs to teach simultaneously first time attendees and those who had attended previous classes. Teaching English learners can be a challenge, but the NEAs received help from the English teachers and gained more skills the longer they taught this audience.

Application

While this program was conducted in Utah and delivered to a group of refugees learning English, many elements are transferrable to other SNAP-Ed, Extension, and FCS-related programs. Extension FCS agents may wish to use this partnership model to develop collaborations with organizations that provide English-learning programs in both urban and rural areas. Such partnerships can enable FCS programs to more easily reach diverse populations, including immigrants and refugees, and enable a reliable workload. Consider the following tips for making such a partnership effective. It is noted that not all Extension staff have the opportunity to partner with English-learning programs; however, some tips can be used to work with other types of partners to make effective use of resources.

Target audience. Seek English-learning classes that fit the Extension program's target audience. In this case, authors looked for an audience that met the requirements for SNAP-Ed.

Overlapping goals. Many FCS program objectives overlap with a variety of workplace and classroom goals. If needed, reframe program goals with new phrases to appeal to the goals of English-learning agencies by "identifying desirable outcomes that are shared by the partners" (Pritchett, et al., 2012), and building upon what is already happening (Gillespie, et al., 2003). It's unusual to discover that SNAP-Ed classes help participants learn English. However, within the context of this program and the alignment of goals to promote self-sufficiency, teaching English was a bi-product or indirect result of the nutrition classes taught as part of the English-learning program. Teaching the SNAP-Ed classes in English helped achieve two of the center's goals—to teach English, and to prepare participants for everyday living. Classes taught in English also helped participants become acquainted with the local food culture.

Class format. Consider the number of hours participants will be attending English classes to determine an appropriate amount of time to deliver FCS programming. At the work-site training center, participants attended English-learning classes four hours a day, five days a week, for a total of 20 hours a week. Teaching nutrition 1-hour every other week is only 1/40th of their time learning English. In instances of less English-learning class time, consider delivering Extension programming in mini-classes of 20 to 30 minutes to allow the partnering agency adequate time to continue with its established program.

Teaching skills. Using English to educate a group of individuals whose primary language is not English requires a variety of teaching styles to be effective. Where possible, use visual aids in various forms. Repeat key words and phrases a few times while writing neatly on a large board or poster. Bring a variety of items that fit the class. For example, if the class is about a specific food, show photos or bring several forms of that food (e.g., fresh, frozen, dried, bottled) in a variety of brands. Use less scripted speech, and invite the class to speak and write concepts. Use equipment that participants are likely to have on hand, or teach how to use equipment with which they may be unfamiliar.

Paperwork modifications. Due to the multiple languages spoken in one class, and in order to meet the reporting needs of the SNAP-Ed program, some changes were needed in the paperwork and evaluation of the classes. Consider creating modifications to program paperwork and evaluations that will simplify the process but still meet the data collection and information needs of reporting entities.

Especially in a time of declining resources, it can be a challenge to increase programming numbers and reach diverse audiences. By partnering with an agency that teaches English-learning classes, Extension programs reached more underserved audiences within the confines of programming budgets. Such partnerships could enable sustainable and reliable programming outlets in virtually all FCS topics.

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Table 1. Utah SNAP-Ed Food $ense Adult Curriculum

Food $ense Basics	Food $ense Cooks	Food $ense Grains, Vegetables, Fruits
Menu Planning, Shopping and Quick Meals	Kitchen Basics	Many lessons on one specific food, such as quinoa, asparagus or grapefruit.
The 2010 Dietary Guidelines and MyPlate	Knife Skills	
Grains	Baking and Measuring Skills	Includes shopping tips, storage, preparation, cooking and eating
Fruits and Vegetables	Skillet Cooking Skills	
Milk and Dairy Foods	Moist Cooking Methods	
Meats and Beans	Roasting Skills	
Food Safety	Grilling and Broiling Skills	
	Microwave Cooking Skills	
	Slow Cooking Skills	
	Pressure Cooking Skills	

Best Practices

Helping Grandparents Raising Grandchildren: A Review of Selected Programs and Resources

Sarah Mammarella, Andrew Behnke, Luci Bearon

Over 2.5 million grandparents are currently raising their grandchildren and this number continues to increase annually. Issues these grandparent caregivers deal with are many and multi-dimensional, ranging from legal issues, educational tasks, and financial hardships to health problems and housing difficulties. Many programs across the nation have been developed to help grandparents who are raising grandchildren, but only some programs include the key elements that have been found to be effective to address the needs of this group. This paper reviews carefully selected support groups, home-based case-management programs and online resources that have been identified as promising approaches to help address the many challenges grandparents raising grandchildren may face. Additional research is needed to strengthen the support services available to grandfamilies.

For many American families, grandparenting involves babysitting, doting on grandchildren, and enjoying family visits. However, in recent years, there have been increasing numbers of grandparents raising their grandchildren due to challenges faced by the parents. The U.S. Census Bureau's American Community Survey (2009-2011) reported that over 2.5 million grandparents are raising their grandchildren. These numbers have increased by about 30% in the past decade and are estimated to continue to rise (U.S. Census Bureau, 2009-2011).

The phenomenon of grandparents raising grandchildren has increased due to parental circumstances such as economic difficulties, drug abuse, teenage pregnancy, incarceration, military service, divorce, mental illness, physical illness, violence (both sexual and physical), death of parent(s), and parent disability (Hayslip & Kaminski, 2005; Mader, 2009). These situations affect families of all ethnicities and socioeconomic statuses. However, regardless of age, ethnicity, or socioeconomic status of the grandparents, those who take over the responsibility of raising grandchildren may face many struggles.

Purpose

In this paper, we describe some of the programs, services, and resources designed to help grandparents obtain the information and support they need to raise their grandchildren and maintain their own wellbeing. We describe how the programs work, why they are needed, and the kinds of outcomes that have been reported. Although our list is not comprehensive, the services discussed are some of the more commonly available forms of assistance in local communities across the country. Thus, a basic introduction to these approaches will help Extension educators become more aware of both the needs of and resources available for grandparents raising grandchildren.

Literature Review

Taking over parental responsibilities as a grandparent presents a variety of challenges. Children that come to live with grandparents may be dealing with an array of emotions such as anger, depression, sadness, and resentment from having an upset living situation. Grandparents often experience similar feelings, which may be a result of the stress they feel about the unanticipated responsibility of raising their grandchildren, or from concern about the circumstances of their grown children. Either way, these emotions challenge the grandparents' abilities to set boundaries and provide necessary attention and empathy (Strom & Strom, 2011). Once children are in their care, many grandparents face legal issues, educational challenges, financial hardships, health problems, and housing difficulties (Generations United, 2012).

Grandparents who raise their grandchildren are often not the legal guardians of the children and therefore have no legal rights to medical records or power of attorney. In some states, they may face barriers when enrolling children in school, day care, or other extracurricular activities (Generations United, 2012). Fortunately, more services and resources have been, and are being, developed to help grandparents raising grandchildren with legal matters. Such resources include free legal advice from Legal Aid, written informational materials that help grandparents navigate legal issues, and advocacy organizations that give grandparents a voice to be heard by legislators and policymakers (Generations United, 2012).

Grandparents who are raising grandchildren may have to deal with other school-related issues. Children who find themselves in this family situation may seem emotionally detached or scarred and may have learning and behavioral problems in school (Poehlmann et al., 2008; Strom & Strom, 2011). Grandparents may feel embarrassed by their situation and age and may be apprehensive about getting involved at the children's schools (Strom & Strom, 2011).

Financial strain is one of the biggest challenges for grandparents raising grandchildren. Many of them live on fixed incomes that cannot accommodate an increased family size. Working grandparents may be forced to quit their jobs or reduce their hours in order to care for their grandchildren (Generations United, 2012). Research

suggests that grandparents raising grandchildren have a much greater likelihood of living in poverty than any other type of family unit (American Academy of Child and Adolescent Psychiatry, 2011). In fact, 19% of grandparents raising grandchildren in the U.S. live in poverty (American Association of Retired Persons [AARP], 2011a).

Grandparents raising grandchildren are at a higher risk of many health conditions. Their health status may decline once they start raising their grandchildren. Grandparents may already have health problems as a result of economic hardship and lack of access to health care. Furthermore, these problems may be exacerbated by psychological stress and insufficient time to care for themselves because of their new child raising responsibilities (Kelley, Whitley, & Campos, 2010).

Additionally, housing arrangements can contribute to grandparents' hardships. Grandchildren who come to live with grandparents are often unexpected, so the existing housing may be inadequate. Housing concerns include livable space, overcrowding, unsafe neighborhoods, child safety hazards, and violations of a lease or rental agreement (e.g., if the housing area is for adults or senior citizens only) (Kolomer & Lynch, 2007). Although there are government assistance programs that can help persons with limited incomes, research shows that only 40% of qualifying grandparents receive housing subsidies (Generations United, 2012).

It is clear that grandparents who raise their grandchildren may face many hardships and difficulties. Programs and services to provide help and support to grandfamilies began to be developed 10-15 years ago. Without support, grandparents raising grandchildren can become increasingly at risk for more hardships.

Promising Approaches and Resources

There are many programs across the nation that are designed to help grandparents raising grandchildren. However, few of these programs have been studied to determine their effectiveness or long lasting impacts. Different approaches need to be considered in order to serve the unique needs and challenges of grandparents raising their grandchildren.

Support Groups

Support groups can be very effective in reaching audiences with common issues (e.g., alcoholics, caregivers, widowers, etc.). However, in order to effectively serve grandparents raising grandchildren who may be dealing with a range of issues, support groups must have certain components.

Community support and partnership is essential for a successful support group to be implemented. Buy-in from key community partners (such as Extension educators, social workers, nurses, county commissioners, teachers, therapists and others who are recognized as being active in the community) must be obtained in order to offer a wide

array of support and services to grandparents raising grandchildren. These community partnerships help in the development of a community plan to address the needs of grandparents raising grandchildren, establish goals, and create action steps to address identified issues (Miller, Bruce, Bundy-Fazioli & Fruhauf, 2010). Community partnerships can also provide different sets of expertise and knowledge to the grandparents during support groups, offer financial support for the group, and offer a meeting place.

Each support group should have effective facilitators in order to establish rapport and gain participation from the group. Because grandparents raising grandchildren come from many different age and racial groups, at least one of the facilitators should reflect the age or racial makeup of group members in order to make the grandparents feel more comfortable sharing their experiences (Dannison & Smith, 2003). In addition, trust is essential in any support group. Grandparents raising grandchildren may be dealing with a lot of emotions, and it is essential that facilitators have empathy and compassion, be good listeners, and offer support. Facilitators should also be trained in how to work with this audience and be able to communicate with the group in a way that conveys respect and understanding. If facilitators do not meet these criteria, it is unlikely that grandparents will utilize or sustain support group services (Baker & Silverstein, 2008).

A number of components of the support group are essential to facilitate knowledge acquisition and fellowship among grandparents raising their grandchildren. The group time should be split so that both education and sharing can occur. It is important to do an assessment of needs in order to gain an idea of what the grandparents in a specific group or geographic area require. Then, educational programs can be scheduled and implemented to address the needs identified in the assessment. Educational programs should be research-based and easy to understand. Two examples of effective programs are *Parenting a Second Time Around* (2009) developed by Cornell University Cooperative Extension and *Doubly Blessed, Triply Stressed* (2013) from Pennsylvania State University Cooperative Extension. Each group session should have time allotted for sharing and fellowship for grandparents to talk about stressors and realize that they are not alone in this new role (Dannison & Smith, 2003; Kelley et al., 2010).

Successful support groups must also address barriers to support and attendance. For instance, groups should be kept relatively small (8-10 participants) in order to encourage sharing and to build strong relationships among partcipants (Dannison & Smith, 2003; Kelley et al., 2010). Some grandparent caregivers are reluctant to attend support groups because they do not feel that they need this type of support or they feel shame and/or anxiety about their caregiving situation (Carr, Gray, & Hayslip, 2012). Other barriers to attendance include lack of child care or transportation. Some support groups offer free childcare, transportation, meals, gift cards, or other incentives to provide the initial motivation. Several groups have found that the need for incentives decreases after the grandparent begins to realize the value of the group (Dannison & Smith, 2003).

Care should also be taken when working with the grandchildren while the grandparents are in a support group. Children in grandfamilies may struggle with issues

of shame and depression and are at a higher risk of behavioral problems (Poehlmann et al., 2008; Strom & Strom, 2011). While grandparents are meeting in a support group, it would be ideal to have the children learning or doing activities that will help them address the issues they are facing. Facilitators of groups for children should be trained individuals who work well with children; this could be a social worker, mental health professional, 4-H leader, or others.

Home-based Case Management

Home-based case management services consist of a person (typically a case-worker or nurse) going into the home of another person to provide one-on-one services and support. This practice has been proven to provide positive impacts for grandparents raising grandchildren (Kelley, Yorker, Whitley & Sipe, 2001). Home-based case management services are usually provided by agencies such as child protective services and elder care. Home-based support is particularly needed in cases where grandparents are confined to their home.

Community partners can play an important role in helping grandparents obtain home-based services. They can work with local schools, social services, and senior centers to identify grandparent caregivers who are in need of home-based support and provide appropriate and timely referrals.

Grandparents raising their grandchildren are at a significantly higher risk for health problems (Kelley et al., 2010). Home-based services should include a health component. Nurses can do health assessments in the home and develop goals to improve existing health conditions or reduce the development of conditions for which grandparents may be at risk. Social workers can work within the home to provide support and be a guide to services for which grandparent caregivers may be eligible. One study showed home-based case management services significantly helped grandparents raising grandchildren connect to many community resources and provided advocacy for grandparents to receive more financial support through the state (Kluger & Aprea, 1999). Some programs have included support groups and home-based case management in order to fully address multiple needs (Kluger & Aprea, 1999; Kelley et al., 2010). This seems to be an ideal approach to increase the quality of life for the grandparents raising grandchildren.

Online Resources

Communication technology has evolved and the Internet is a source for many kinds of information. The majority of adults of all ages use the Internet (Pew Internet, 2013). Many online resources are available for grandparents raising grandchildren, Extension educators, and other professionals who serve grandfamilies. Several Cooperative Extension websites contain consumer publications on this topic. In 2011a, AARP and five partner organizations developed state-specific Grandfacts sheets that

describe state and local resources and contact information for grandparents raising grandchildren. AARP also developed a Grandfamilies Guide (2011b). Additional professional online resources on this topic are available at the following websites: eXtension (2013), the Brookdale Foundation's Relatives as Parents Program (2013), Generations United (2012), and the U.S. Government's Official Web Portal (2013).

Conclusion

Over the past few decades more grandparents have been taking care of their grandchildren than ever before. These grandparents may encounter many issues and problems as they carry out their caregiving role. The issues faced by grandparents who raise grandchildren are multi-dimensional and, consequently, services developed for them are most effective if they are comprehensive. In other words, grandparents need a host of different types of support, from family and friends to professionals. Support groups, home-based case management and online resources have been found to be effective ways to reach grandparents raising grandchildren. Further research needs to be conducted in order to identify additional ways to provide support to these caregivers.

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