Planting Seeds to Grow Healthy Children: Strategic Community Partnerships

**Abstract**

More than one third of U.S adults are considered obese and childhood obesity has more than doubled in the past 30 years. Heart disease is now the leading cause of death worldwide, with obesity considered a major contributor.  Nutrition has a significant influence on obesity; in particular, within inner-cities where access to healthy food is often limited. The experience of inner-city families who participated in nutrition workshops associated with a food distribution program were assessed via focus groups. A total of five sites received the food access and nutrition program and one focus group was held at each site. Main ideas derived from the focus groups were participant satisfaction with money saving suggestions, ideas for how to make healthier choices and excitement about opportunities to receive foods that they would not normally buy. Challenges included timing of the program, language barriers and space availability for the program at certain sites.  This innovative mobile food truck program demonstrated the value of strategic community partnerships in the fight against pediatric obesity.

Keywords:

Childhood obesity, mobile food truck, community engagement, nutrition

**Background**

Obesity has reached a critical level of concern as multiple complications from this disease have become an extreme burden on our healthcare system. It is associated with poorer mental health outcomes, reduced quality of life, and influences many of the leading causes of death in the U.S., such as diabetes, heart disease, stroke, and some types of cancer (Center for Disease Control and Prevention (CDC) (a), 2016). Regrettably, it is also considered one of the leading causes of *preventable* death. In the United States, nearly 38% of adults are obese, with Blacks and Hispanics being disproportionately affected (48.4%, 42.6% respectively, Whites, 36.4%) (Segal, Rayburn & Martin, 2016).

The prevalence of obesity among children and adolescents demonstrates similar disparities, higher among Hispanics (21.9%) and blacks (19.5%) than among non-Hispanic whites (14.7%) (Segal, Rayburn & Martin, 2016). Obesity rates have also become much higher starting in earlier ages, with 8.9% of 2- to 5-year-olds fitting into the obese category (Ogden et al., 2016). Consequently, the nationwide SEARCH for Diabetes in Youth study found the incidence of type 2 diabetes in non-Hispanic white children to be only 6%, but anywhere from 22 to 76% in other racial and ethnic groups (Search for Diabetes in Youth Study Group, 2016). More importantly, 60% of overweight children exhibit at least one risk factor for heart disease (State of Connecticut, 2013), the leading cause of death globally.

Both direct and indirect costs of obesity equate to billions of dollars every year. In 2005, the U.S. spent $190 billion on obesity -related health care expenses, which was double previous estimates (Wang, McPherson, Marsh, Gortmaker & Brown, 2011). On an individual level, the per capita medical spending for obese persons, when compared with those of normal weights, was 42% higher (Finkelstein, Trogdon, Cohen, & Dietz, 2009) with more recent data suggesting that obesity-related medical costs have been under-estimated (Cawley, 2012). Both the economic drain and the toll on health have prompted a global awareness and call to action to reduce the burden of this destructive disease.

There are multiple causes and contributing factors that result in obesity. Individual behaviors can include cultural and familial dietary patterns, physical activity, sedentary lifestyles and various medication usage. Situational circumstances include factors like access to healthy foods, physical environment and green space, quality of education and resources, and food marketing. The complexity of this disease has allowed for many types of interventions, throughout various stages of life, to address this ubiquitous problem. Trends have moved towards focusing on the younger population to establish healthy habits as early in life as possible (CDC, 2015).

Variousnutrition education programs have been influential in producing healthier eating habits. Effective strategies to promote healthy eating behaviors in toddlers have included encouraging family mealtime practices and teaching parents how to introduce new foods (Horodynski & Coleman, 2004). Providing nutritional classes to parents of preschool aged children has also demonstrated an increase in the consumption of low fat/ fat free milk and vegetables among children at home (Williams et al., 2014). Other programs focusing on modifying parents’ food choice behaviors guided changing the nutritional habits of the entire family unit (Dickin, Hill, & Dollahite, 2014; Jang, Chao & Whitemore, 2015) and lowered body mass index (BMI) in adolescents (Brotman et al., 2011). Overall, interventions that incorporate parents as well as the surrounding community have shown the most promise for changing the eating behaviors of children.

Due to the intricacies of the issue at hand, innovative approaches are often used to target various facets of the problem. In Connecticut, a large non-profit organization (XX) created a mobile food truck program. Designed to serve families located in food desert areas, collaboration with local child care centers were established to connect families with this unique service. Parents of the preschool-aged children enrolled were invited to participate in a six-month nutrition program that involved bi-monthly nutrition education followed by grocery shopping on the mobile food truck. The funding allowed for the mobile food truck to enroll a new cohort of participants every six months. Mid-way through the three-year program an evaluation of participants’ experience was completed. This paper describes the results of the program evaluation and the participants experience.

**Method**

The qualitative methodology of focus groups was used to evaluate the participant’s opinions and experiences within the nutritional classes offered through the program. Focus group is an appropriate method to use in the evaluation of a program. This method allows for more in depth information on perceptions of the programs, experiences with the program and insight as to how the program can be improved for future participants. Convenience sampling was used, as those offered to take part on the focus groups were already participants of the mobile food truck program. University Institutional Review Board approval was obtained prior to beginning any recruitment. A total of five sites received the nutrition program and mobile food services over the specified six-month period. At the onset of the program with this cohort a questionnaire was given to participants to gather sociodemographic information. At the end of the six-months all participants were offered the option of participating in focus groups. All focus groups were tape recorded and transcribed.

Focus group data can be analyzed with constant comparative analysis, and can be especially useful when multiple focus groups for the same study are involved. Exploration of themes that emerge from one group can be used to assess if similar themes emerge in the subsequent focus groups (Onwuegbuzie, Dickinson, Leech & Zoran, 2009). Each focus group was looked at as a single unit of analysis and similar themes across groups were combined. The following results include both data collected from the initial questionnaire and the focus group outcomes.

**Results**

All parents of children enrolled in the preschool program were eligible to participate in the mobile food truck program. Despite this, site participation rates with the mobile food truck program were not to capacity. At the onset of this specific cohort there were 93 participants, at a total of five pre-school sites.77% requested to answer the initial questionnaire in English and 23% in Spanish. The largest age group represented were those between 26-35 (40%) and half of the sample (50%) self-identified as Latino/Hispanic. Even though more than half of the participants (57%) reported working outside of the home, a majority relied on additional programs to assist with food costs (see table one). Access to a supermarket or venue with fresh fruits/vegetables (like farmer’s markets or community gardens) was also limited (see table two).

There was one focus group held at each site and participation ranged from between eight to eleven members. Facilitators for the focus groups included a graduate research assistant, two undergraduate research assistants and a translator when necessary. A predetermined set of questions related to the program guided the discussions. The focus groups were conducted in both English and Spanish and were dependent on the needs of the participants. There were two sites that held focus groups in both English and Spanish. A total of 47 program participants agreed to be part of the focus groups (51 % of the overall program participation rate).

Focus group participants were asked what motivated them to join the mobile food truck program. Curiosity was cited as a primary reason. Some also discussed a desire to learn more about nutrition and how to stay healthy. Considering the use of other programs to supplement food costs, it was not surprising that participants found the financial help from the mobile food truck to be a tremendous resource; “There were times when I didn’t have anything and I didn’t know what I was going to do. Then I remembered the food truck which gets me to the next time I get paid”. Economic restraints would limit what they would normally be able to purchase and this program allowed them to have access to nutritious foods that were cost prohibitive, like fruits and vegetables; “I get the necessities for my house which are milk, bread, eggs and meat. I do not normally go to the produce section”. Comments regarding the financial benefits of the program also included that they learned how to better budget their food costs and complement what was provided for free with what they needed to purchase with their own money.

The participants also expressed various ways in which the nutrition education helped them to make healthier food choices in their homes. They appreciated the information on portion sizes and calories and how to read food labels. Content related to sugar, protein and fats was most discussed in the focus groups; “Now I look at juices and snacks that are healthier”. There was also excitement about being able to try new foods that they would not have normally purchased, either because of costs or unfamiliarity; “now we are eating granola and we never ate that before”; “butternut squash, I had to look it up online because I never heard of that and I went online and found a recipe”; “I was able to try things that I would not have normally bought on my own (like ground turkey and fish) since eating healthy is more expensive”.

Information from the focus groups also demonstrated that participants acquired knowledge that allowed them to make healthier choices for their families; “They gave me tips on how to transition from using 2% milk to 1% milk”; “The program made me think about what I was cooking”; “I switched white bread for wheat bread”. Some also changed who they prepare meals with at home; “I now allow my kids to cook with me – I learned that the more they are involved the more they will learn as well”.

When asked about barriers or things they would change about the program, the issue most frequently cited was related to the timing of the program. Many felt it would be helpful if the program was a little earlier, “because sometimes I’m late for work when the truck runs late”. For those with mid-afternoon access to the mobile food truck, having to leave work early was problematic. Translator availability at all sessions was also requested, although the Spanish speakers did appreciate that all the handouts were provided to them in their language of choice. The learning environment (where the educational content was being delivered) was also a challenge at certain sites. Space availability limited seating and privacy. Many felt it was hard to focus when they could hear the children playing in the preschool or as people walked in and out of the rooms they were utilizing.

Specific to the kinds of foods that were provided, most participants felt that the food was culturally appropriate for their needs but would have liked a larger quantity of milk, eggs and cheese, as these are staples in the households that are quickly depleted. Organization of the food distribution was also problematic at certain sites. After the educational content was delivered, numbers were dispersed to participants and each person “shopped” on the truck when their number was called. At times this was not very organized or efficient. Lastly, advertisement of the program was discussed as needing to be done differently. Many heard about the program from another participant. They suggested sending home flyers, posting the program information at the preschool and reminding staff to promote the program to increase participation among families, especially since they all considered the program to be such an asset.

Social acceptability and potential response bias should be considered limitations with the focus group data. The fact that the focus group moderators were not directly involved with the mobile food truck should have decreased this likelihood. There were also no defined attendance requirements for participation in the educational sessions to access the mobile food truck. Therefore, within the focus groups there were some that had attended all the educational classes and others that may have missed certain portions of the content that was delivered. This would obviously impact the level of knowledge acquired by the participants. Despite these limitations, the evaluation can be utilized to raise awareness about how nutritional programs can influence healthier lifestyle choices in lower socioeconomic communities.

**Conclusion**

The mobile food truck program was an innovative concept used to increase access to healthier food items for lower income families living in urban areas. The program also provided nutrition education to the participants involved, with early learning daycare centers targeted as a strategic community partner to engage the parents of pre-school aged children. Focus group data from this cohort of participants revealed that the program provided financial assistance (in terms of food costs savings) and an opportunity to learn about healthier lifestyle options. Parents expressed excitement about gaining skills that would help them to improve the health of their children and being afforded the opportunity to try new (healthier) food options. This mobile food truck program supports continued initiatives to work with parents and other community stakeholders to promote healthy child growth and development by improving access to healthier options.

Based on the United States Department of Agriculture report (2009), 23.5 million people who live in low-income areas, also live more than one mile from a supermarket or grocery store. Limited transportation and travel distance to these food venues is another significant issue for 93% percent of those living in low-resources communities. Many participants in this program encountered similar challenges and lived closest to a bodega or convenience store and more than ten blocks from community garden or farmers market. Future implications would suggest striving to provide education that is practical for these communities. If convenience stores are where people will shop if they lack transportation – then health education should center on teaching healthier eating habits based on availability (*portion control and comparing food labels would be essential*). Additionally, working with the small business owners to increase the supply of healthier options available for customers would be another way to support change. Advocating for access to affordable transportation, green space for community gardens and increasing partnerships with nearby farms would contribute to the sustainability of improved access to healthier options.

A recent study found that obesity prevalence in the U.S. has declined among children aged 2-4 years old enrolled in Women, Infant and Children (WIC) supplemental food program programs. Despite these gains the current prevalence rate of 14.5% among this at-risk group (lower SES) is still significantly higher than the national average of 8.9% (Pan et al., 2016). Similarly, most participants in this program cohort self-disclosed that they use either food stamps (55%), the WIC program (61%) or another form of additional food assistance (food pantry, 38%; soup kitchen, 10%). Expansion of similar food truck programs that provide food assistance in conjunction with education may further influence the declining obesity rates in younger children.

While the United States has made some investments in obesity prevention through various initiatives, the future of such funding is uncertain. Therefore, efforts that include collaborations across various sectors with multiple partners (including academic partnerships, non-profits and community agencies) would seem to be the most cost effective. Statistics demonstrate the gravity of the issue at hand. There is no state within the U.S. that has a prevalence of obesity less than 20% and half of the states in this nation (25 states) are struggling with an obesity prevalence of greater than 30% (CDC (b), 2016). And while trends in pediatric obesity over the last decade seem stable, we have seen the rates of obesity in children ages 12-19 quadruple (from 5% to 20.5% between 2011-2014) (Segal, Rayburn & Martin, 2016). Children from low-income families and from black and Hispanic families are disproportionately affected, leading to negative health consequences in both childhood and adulthood. The reality is that obesity should be seen as one of the biggest health perils endangering our children and the future of our nations. This preventable problem will continue to necessitate collective action at the primary prevention level to affect a long-term change that will be measurable in the years to come.

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