A Supplemental Produce and eLearning Nutrition Education Program for Georgians Who Use Safety-Net Clinics for Their Health Care

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ABSTRACT

Objective: To explore the experiences of safety-net clinic patients who engaged in a 12-week supplemental produce and eLearning nutrition education program.

Methods: This mixed-method study employed a nonrandomized comparison study design. Participants (intervention [n = 20] and comparison control [n = 6]) had diet-related chronic diseases. Data collection included pre- and post-intervention, focus group interviews, 24-hour diet recalls, and clinical and anthropometric outcome assessments. Interviews were recorded, transcribed, and coded using the constant comparison method. Nonparametric data analyses were conducted for quantitative data.

Results: Three primary themes emerged: (1) program benefits, (2) challenges to achieving health benefits and optimal engagement of the program, and (3) recommendations for program improvement. Quantitative data analysis did not show significant differences in pre- and post-clinical and anthropometric measures between the intervention and comparison groups.

Conclusions and Implications: Findings suggest a unique *Supplemental Nutrition Assistance Program Education* dissemination model that may decrease barriers to healthful eating and increase engagement in eLearning nutrition education.

Key Words: nutrition education, eLearning, SNAP-Ed, food security, medically underserved (*J Nutr Educ Behav.* 2019; 51:1099−1106.)

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INTRODUCTION

Food insecurity is a household-level economic and social condition of limited or uncertain access to adequate food. Low-income adults who suffer from food insecurity and limited access to fresh produce disproportionally suffer from complications of diet-related chronic diseases such as diabetes, hypertension, and cardiovascular disease.[1,2] One approach to mitigating the health impacts of food insecurity is through nutrition education. Nutrition education, when appropriately tailored for low-income audiences, can help prevent nutrition-related chronic disease, provide food resource management guidance, and support reduction in food insecurity.[3]

The University of Georgia *Supplemental Nutrition Assistance Program Education* (UGA SNAP-Ed) includes an innovative nutrition education eLearning program as a means to reach a broad statewide SNAP-Ed−eligible audience in Georgia. The program is based on a comprehensive needs assessment and was launched as a part of UGA SNAP-Ed programming in 2016.[4−6] This approach is unique in that it provides comprehensive eLearning nutrition education through a series of interactive lessons, learning games, educational and cooking videos, and online assessments to evaluate changes in participants' food- and nutrition-related behaviors.[5] By working with statewide UGA Cooperative Extension and safety-net clinic networks, UGA SNAP-Ed has offered eLearning nutrition education as a means to serve SNAP-Ed−eligible Georgian adults outside of large metropolitan areas where direct registered dietitian−led nutrition education opportunities are limited.[7]

More than 44 million adults use safety-net clinics for their primary

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care, and these clinics often lack access to registered dietitian–facilitated nutrition education.[8] Safety-net clinics which exist outside of a more extensive hospital system could benefit from UGA SNAP-Ed nutrition education eLearning resources.[9] In rural areas, outside of large hospital networks and urban areas, shortages of registered dietitians exist, and eLearning nutrition education programs have the potential to fill in these gaps.[6,10] As a new initiative, encouraging collaboration between UGA Cooperative Extension and safety-net clinics may serve as a sustainable partnership to provide SNAP-Ed nutrition education for medically underserved Georgians.

Further exacerbating food security status, many patients who use safety-net clinics also lack access to affordable fresh produce, which creates a significant limitation for the outcomes of any nutrition education program translating to behavior change for diet-related chronic disease management.[11] This paper reports the experiences of low-income adult participants who engaged in a 12-week supplemental produce and eLearning nutrition education program. The unique nature of this project was to combine nutrition education eLearning and supplemental produce to improve the nutritional health of low-income Georgian adults who use safety-net clinics for their health care.

METHODS

Study Design and Study Sample

The project employed a nonrandomized comparison group design. The sample included SNAP-Ed–eligible Georgian adults (≥18 years old) who live in households with income below 185% of the federal poverty level as evidenced by their enrollment in the safety-net clinic. Eligible participants were either actively enrolled or previously enrolled in safety-net clinic diabetes education and prevention classes; were fluent in English; and had a diagnosis of diabetes, hypertension, and hyperlipidemia, or a combination of these. Safety-net clinic staff, located in rural South Georgia, helped to recruit 26 participants (20 for the intervention group and 6 for the comparison group) using a convenience sampling method. The intervention group (n = 20) received access to a nutrition education eLearning program and a bag of locally grown produce for 12 weeks. The comparison group (n = 6) did not receive produce or eLearning access. Biochemical indices and anthropometrics were measured at the start of the intervention (baseline) and 3 months after the start of the program (baseline) for all 26 participants. All participants engaged in a focus group interview before the intervention and the intervention participants also engaged in a post-intervention focus group. Key informants from each collaborating organization (safety-net clinic, local Cooperative Extension, farmer, and a clinical research nurse) were interviewed both before and after the intervention.

Intervention

The intervention consisted of the 10 eLearning nutrition education lessons and a weekly bag of locally grown fresh produce for 3 months. The feasibility of Georgia SNAP-Ed eLearning nutrition education programs among SNAP-Ed–eligible Georgians has been rigorously examined using a mixed-method methodology.[4,6,12] Feasibility studies suggested that SNAP-Ed–eligible Georgians have the digital literacy skills to use a smartphone-based eLearning program effectively and that incentives for program engagement ought to be included to enhance motivation. Also, these studies suggested eLearning lessons should be short (<3 minutes) to accommodate the busy lives of many SNAP-Ed–eligible Georgians and include interactive games, activities, and audio features to encourage program use. The lessons are supported by constructs from Adult Learning Theory (ALT)[13] and eLearning theory.[14–16] Examples of these theory-based constructs include "anytime anyplace" asynchronous learning opportunities (ALT) and interactive visual-based learning (ALT and eLearning theory). The eLearning lessons are targeted to the cultural preferences and education needs of low-income Georgians. The eLearning lessons feature a southern-accented voiceover to serve those with low literacy, images that reflect the population in Georgia, and foods used in cooking demonstrations and interactive activities common in southern cuisine. The lessons include a focus on food resource management to serve those who experience food insecurity and feature budget-friendly recommendations for healthful eating. Each intervention participant was loaned a smartphone with an unlimited data plan to access the 10 interactive eLearning lessons. The purpose of the loaned smartphone was to decrease participant burden for involvement in the study and respect participants' limited resources as many participants have limited data plans on their own devices. The lessons are augmented with cooking, exercise, and just-in-time educational videos. The nutrition education programs are titled *Food eTalk* and *Food eTalk: Better U*. These programs are focused on general healthy eating, grocery shopping, cooking, and food safety, and they include principles from the *Dietary Approaches to Stop Hypertension and Diabetes Prevention Program* specific to low sodium, high fruits and vegetables, limited added sugar, and portion control. The latter of the 2 programs, *Food eTalk: Better U*, includes a focus on healthy weight management principles. The weekly local fresh produce was delivered to the safety-net clinic as this is a central location familiar to all participants. Fresh produce was coordinated by a local farmer who agreed to collaborate in this project. Produce bags contained locally grown fruit and vegetables including strawberries, collard greens, peppers, onions, squash, and sweet potatoes. The safety-net clinic staff stored, dispersed, and tracked pick-up of produce bags every Tuesday morning between March and May, 2018.

Data Collection

This project employed a mixed-methods evaluation. Quantitative measures used for evaluation included self-reported 24-hour dietary recall, food insecurity assessed by the validated modified 6-item USDA Household Food Security Survey Module,[17] demographic information, general