

Development of a Healthful Weight Management Nutrition Education Curriculum for Low-Income Adults

Abstract

Food Talk: Better U (FTBU) is a healthful weight management curriculum developed by the University of Georgia's Supplemental Nutrition Assistance Program Education (SNAP-Ed) team. FTBU addresses the high burden of obesity among low-income Georgians by focusing on healthful weight management practices. Topics include practicing portion control, tracking dietary intake, setting goals, limiting added sugar, making small healthful behavior shifts, and implementing problem-solving strategies. Lesson structure includes sharing sessions, didactic lessons, cooking demonstrations, and physical activity. FTBU is based on needs assessment results and rigorous evaluation and thereby aligns with requirements outlined in current SNAP-Ed guidance materials. Other Extension SNAP-Ed providers may benefit from understanding the FTBU development and evaluation processes.

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Sarah Stotz

Postdoctoral Research
Fellow
sastotz@uga.edu

Laurel Sanville

Nutrition Educator
lsanville@uga.edu

Caree Cotwright

Assistant Professor
cjcot@uga.edu

Rachelle Reed

Instructor
Rach1@uga.edu

Mona Habibi

Research Professional
mhabibi@uga.edu

Jung Sun Lee

Professor
leejs@uga.edu

University of Georgia
Athens, Georgia

Introduction

New highlights from the U.S. Department of Agriculture (USDA) Supplemental Nutrition Assistance Program Education (SNAP-Ed) 2017 Guidance require that nutrition education programs be based on comprehensive needs assessment, include physical activity and promotion of healthful food choices, and follow the 2015–2020 Dietary Guidelines for Americans (DGA) (USDA, 2018). Therefore, the University of Georgia (UGA) SNAP-Ed team developed a new curriculum that addresses healthful weight management and obesity prevention and is being offered through the UGA Extension system in Georgia.

Curriculum Development

To establish an evidence-based obesity prevention program, UGA SNAP-Ed team members, including members of our author team, conducted systematic needs assessment and a literature review. Additionally, we implemented a logic model to inform program development.

Needs Assessment

UGA SNAP-Ed team research on perceived weight status and intention to lose weight among UGA SNAP-Ed participants suggested a high burden of obesity and desire for weight management (Bailey & Lee, 2017). Needs assessment findings also revealed that participants considered healthful weight in terms of being free from health conditions and maintaining a weight at which one is comfortable. Participants were especially interested in weight management as a means of preventing and managing diet-related chronic conditions such as diabetes, hypertension, and high cholesterol (Habibi, Slagel, Stotz, & Lee, 2017).

Literature Review

The literature revealed many unanswered questions about best practices for community-based weight management programs for low-income individuals. However, several themes did arise:

- It is important that participants learn to track dietary intake and set behavior goals as supported by the National Institute of Diabetes and Digestive and Kidney Diseases' Diabetes Prevention Program (DPP) (The DPP Research Group, 2002).
- Guided dietary intake tracking, physical activity goal setting, and follow-up on goal progress are key weight-loss techniques (Karamanian, Nocito, & Grode, 2016; Strecher et al., 1995; The DPP Research Group, 2002).
- A weight loss program facilitated through the Extension infrastructure is a viable means for research translation in underserved communities (Perri et al., 2015; Perri et al., 2008).

Logic Model

The logic model we used to guide curriculum development is shown in Figure 1.

Figure 1.

Logic Model to Inform Development of University of Georgia
Supplemental Nutrition Assistance Program Education (SNAP-Ed)
Curriculum

Inputs	Activities	Outputs	Long-Term Goals
<ul style="list-style-type: none"> • SNAP-Ed team members • Extension staff • Funds • Time • Existing curricula 	<ul style="list-style-type: none"> • Develop program logic model, evaluation questions, indicators, and data collection/analysis plan. • Conduct needs assessment with peer educators, Extension agents, and SNAP-Ed eligible participants (interviews, focus groups). • Conduct a literature review. • Plan the class. Decide on a theoretical framework, number of lessons, and lesson topics. • Develop class components. Develop lessons/write scripts (determine homework items), create recipes, determine physical activity options (2 per lesson), determine and purchase extenders. • Create lesson kits (script binders, extenders, teaching aids, recipe demo scripts, etc.). • Train peer educators; evaluate training. • Conduct pilot testing. • Finalize lessons. 	<ul style="list-style-type: none"> • List of knowledge gaps/needs to be addressed by curriculum • 11 trained peer educators to teach lessons—100% meet an agreed on standard of lesson fidelity/quality • Identification of strategies for enhancing uptake and application of course content for the target audience • Finalized evaluation plan • Appropriate, useful, time-optimized data collection tools (enrollment survey, food recall, brief postlesson survey, exit survey) • Pilot tested, revised, and finalized theory-driven lesson plan • Development of 4 lesson kits ready for distribution 	<p>Complete curriculum that—</p> <ul style="list-style-type: none"> • Is effective at changing perception of weight and changing health behaviors • Is measurable on stated outcomes • Is teachable by peer educators • Is interesting and interactive for target audience • Fosters buy-in, accountability, and sense of community among class participants <p>Impact Improved weight perception and improved weight management behaviors among class participants</p>

Curriculum Overview

Theoretical Framework

The newly developed four-session UGA SNAP-Ed obesity prevention curriculum titled "Food Talk: Better U"

(FTBU) is guided by the expanded health belief model (EHBM) (Burns, 1992) and social cognitive theory (SCT) (Bandura, 1986). The EHBM expands on the health belief model by introducing the construct self-efficacy to the original concepts (Burns, 1992), and the SCT suggests that individual knowledge is related to social interactions, experiences, and observation of others (Bandura, 1986).

Format and Content

FTBU includes both nutrition and physical activity components as weight management and obesity prevention strategies. Each of the four 90-min sessions includes facilitated peer-to-peer communication, interactive activities, and optional weight and height measurement. UGA SNAP-Ed offers the four FTBU classes after any given group has completed the six classes of the UGA SNAP-Ed Food Talk program, which focuses on basic nutrition, food resource management, and sodium reduction, meaning that participants complete a total of 10 classes.

Weight management principles addressed in FTBU include practicing portion control, tracking food intake, limiting added sugar, and making small healthful shifts in everyday food choices. Cooking demonstrations are an important part of the program as well. The 2015–2020 DGA and our team members' needs assessment findings informed the cooking demonstrations and recipes featured in FTBU, and each recipe underwent multiple modifications and sensory analysis prior to pilot testing of the curriculum. The program's physical activity focus also was informed by research-based guidance and needs assessment results. Physical activity includes balance, strength training, and cardiorespiratory components (U.S. Department of Health and Human Services, 2008). Physical activities should be adaptable for individuals with varying physical limitations and should be quick and easy to do; additionally, take-home instructions should be provided (Habibi et al., 2017). UGA Extension peer educators who lead FTBU classes are trained by an exercise physiologist.

Details of each session of the curriculum are presented in Table 1.

Table 1.

University of Georgia Supplemental Nutrition Assistance Program Education *Food Talk: Better U* Curriculum—
Session Details

Session title	Session overview	Interactive learning activity	Physical activity	Featured recipe	Educational extender(s)
Keeping Track!	Participants learn the value of tracking their food intake, portion control, and goal setting.	Test of serving-size estimation skills	Beach ball partner activity (strength, balance)	Pueblo Chili	Beach ball, measuring cups
No Thanks, I'm Sweet Enough	Participants test their knowledge of added sugar and how to identify added sugar on food labels.	Sugar cube challenge—exploration of how much added sugar is in typical foods	Chair exercises (strength)	Greens with Beans	Reusable water bottle

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Small Changes = Big Results	Participants learn small and easy shifts they can make in everyday food choices that add up to big health benefits over time.	Taste-and-rate activity for exploring more healthful alternatives to typically consumed foods (cheese, salad dressing, chips)	Resistance band exercises (strength)	Dirty Rice and Black-Eyed Peas	Resistance band
What Gets in the Weigh?	Participants learn problem-solving strategies for typical barriers that make weight management challenging.	Group-based guided role play skits for presenting barrier scenarios followed by peer problem-solving discussion	Walking (cardio)	Tuscan Pasta	Pedometer, healthful recipe book

One distinctive feature of FTBU is the facilitated peer-to-peer learning opportunities. These occur via sharing sessions and problem-solving role-playing skits.

As supported by the literature, goal setting as a weight management tool is another key feature of FTBU (Streicher et al., 1995; The DPP Research Group, 2002). Figure 2 shows an example of an FTBU goal-setting template.

Figure 2.

University of Georgia Supplemental Nutrition Assistance Program Education *Food Talk: Better U* Curriculum—Example Goal-Setting Template

Set Your Goals!
 "This one step—choosing a goal and sticking to it—changes everything."

STEP 1 Choose one challenge you can do for the next week from the 3 below. Choose one that you are not currently doing or that will be a challenge to yourself. Add this to your goal from Session 1.

- 1. BE MORE PHYSICALLY ACTIVE
- 2. CHOOSE FEWER SUGARY DRINKS
- 3. KEEP A FOOD JOURNAL

STEP 2 Personalize your goal. Be specific about what you plan to do and how often.

- 1. I will get at least _____ minutes of moderate-intensity (activities that make my breathing go up) physical activity on _____ days next week.
- 2. I will choose to drink water or lowfat skim milk instead of sugary drinks on _____ days next week.
- 3. I will track how much I ate _____ days next week.

EXAMPLE: I will choose to drink lowfat skim milk instead of sugary drinks on 3 days next week

GOALS SHOULD...

- START FROM YOUR LIFESTYLE SO THEY ARE PERSONALIZED TO YOU
- BE SPECIFIC
- BE ACHIEVABLE AND REALISTIC

STEP 3 Track your goal. Use the space below to write the minutes of physical activity you completed each day. Use the following pages for recording your food and beverage intake.

	SUN	MON	TUES	WED	THURS	FRI	SAT
Minutes of Physical Activity:	Example 15 min		25 min		20 min	10 min	

Note how you are doing, any suggestions, challenges or experiences when working on your goal here: _____

STEP 4 For Next Week, please:

1. Keep working on your goal.
2. Bring in an item that represents a time you or your family made a healthier choice than normal. This can be a photo, food label, or container.
3. Come ready to share your photo, food label, or container and how you did with your goal.

Another important program component is the opportunity to obtain weight and height measurements. Each participant is invited to privately measure and record his or her weight and height using a calibrated scale

(seca 813) and stadiometer (seca 213). This program component is intended to help the participant gain an accurate perception of his or her weight/height as many participants do not know their actual weight/height measures (Bailey & Lee, 2017). Participants who accurately know personal weight/height are more likely to engage in weight management behaviors (Bailey & Lee, 2017).

Evaluation

The literature suggests that comprehensive evaluation is necessary for establishing an evidence-based weight management nutrition education program (Auld et al., 2015; Dunn et al., 2011; Natker et al., 2015). Accordingly, we conducted a systematic formative evaluation including a 3-month pilot test of the curriculum in a select Georgia county. We standardized our process evaluation across all UGA SNAP-Ed counties through inclusion of a class observation protocol and rubric that are used by Extension agents to assess FTBU program fidelity across counties. Process evaluation as conducted by our county-based Extension peer educators includes evaluation of dose and reach and is assessed via monthly metrics provided to our UGA SNAP-Ed state evaluation team. Outcome evaluation includes a preprogram/postprogram questionnaire, preprogram/postprogram multipass 24-hr recall (Townsend, Ganthavorn, Neelon, Donohue, & Johns, 2014), retrospective assessment of confidence and intention to change after each session (Figure 3), and self-reported weight perception. All outcome evaluation measures were adopted or adapted from the SNAP-Ed Evaluation Framework Outcome Indicators (USDA, 2018) and nationally representative survey measures (Centers for Disease Control and Prevention, 2017) whose reliability and validity were tested in low-income populations.

Figure 3.

University of Georgia Supplemental Nutrition Assistance Program
Education *Food Talk: Better U* Curriculum—Example Retroactive
Confidence and Intention to Change Survey Provided at End of Each
Session

Questions of the day



Session Two

YOURNAME: _____ DATE: _____

What is your measured height?: feet _____ inches _____

What is your measured weight?: _____ pounds I chose not to weigh myself today.

Rate your **CONFIDENCE** level for doing the following things **BEFORE** and **AFTER** today's lesson.

	<u>How confident were you BEFORE today's lesson?</u>					<u>How confident are you NOW?</u>				
Rate your confidence to read a label on a beverage or cereal box and find the amount of sugar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not at all confident	Not very confident	Neutral	Somewhat confident	Very confident	Not at all confident	Not very confident	Neutral	Somewhat confident	Very confident
Rate your confidence to choose foods and beverages that have LESS sugar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not at all confident	Not very confident	Neutral	Somewhat confident	Very confident	Not at all confident	Not very confident	Neutral	Somewhat confident	Very confident

Rate your **READINESS** level for doing the following things **BEFORE** and **AFTER** today's lesson.

	<u>How ready were you BEFORE today's lesson?</u>					<u>How ready are you NOW?</u>				
Rate how ready you are to drink FEWER sugar-sweetened beverages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not at all ready	Slightly ready	Ready	Very ready	I already stopped drinking sugar-sweetened beverages	Not at all ready	Slightly ready	Ready	Very ready	I already stopped drinking sugar-sweetened beverages

Rate how strongly you agree or disagree with the following statements:

"I plan to try today's recipe at home."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	N/A
"I plan to make healthy changes based on what I learned today"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	N/A

Share your comments about today's class: _____



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Conclusion

In response to the new direction of USDA SNAP-Ed Guidance and our team's needs assessment findings, we focused FTBU on healthful weight management principles achieved through nutrition and physical activity. To comply with USDA SNAP-Ed guidance, SNAP-Ed implementing agencies, including Extension, must engage in systematic evaluation of new nutrition education programs to establish evidence-based nutrition education programming. To that end, others may benefit from the information provided herein about the development and evaluation processes for UGA Extension's first obesity prevention program.

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