

Abstract

Background

10 Tips for Adults (10 Tips) was developed by the University of New England, implementing agency for Maine Supplemental Nutrition Assistance Program-Education (SNAP-Ed). *10 Tips* comprises two independent four-session nutrition education series: *Series A* focuses on MyPlate while *Series B* focuses on eating better on a budget. Altarum was contracted by the State of Maine—DHHS Office for Family Independence to evaluate *10 Tips*.

Objective

To assess changes in dietary behaviors and cooking and purchasing foods on a budget among participants in *10 Tips*.

Study Design, Settings, Participants

The target audience is Maine adults eligible for SNAP benefits. A retrospective pre/post survey was administered to *10 Tips* participants after the last class.

Measurable Outcome/Analysis

The survey assessed dietary behaviors and confidence cooking and purchasing foods on a budget before and after participation in *10 Tips*. To estimate significant changes, Wilcoxon signed rank tests and Z-tests with Bonferroni correction were used. Longitudinal modeling assessed the association between number of sessions attended and outcomes.

Results

Respondents significantly improved consumption of fruit, vegetables, low-fat and skim dairy products, whole grains, and sweets after participating in *10 Tips* ($P < 0.01$ for each food group). Respondents' consumption of sugar sweetened beverages (SSB) decreased ($P < 0.001$) and water increased significantly ($P < 0.001$). Likelihood of using MyPlate when preparing and serving food ($P < 0.001$), frequency of using 'Nutrition Facts' labels ($P < 0.001$), and comparing unit prices when shopping for food ($P < 0.001$) increased significantly after participation. Confidence buying ($P < 0.001$) and cooking ($P < 0.001$) healthy foods on a budget also significantly improved. Completion of all four *10 Tips* sessions was associated with improved vegetable ($P = 0.01$) and SSB consumption ($P = 0.03$), and frequency of using 'Nutrition Facts' labels ($P = 0.01$).

Conclusions

Respondents significantly increased consumption of healthy foods and water, decreased consumption of SSB and sweets, and improved skills in buying and preparing healthy foods on a budget after participation in *10 Tips*.

Overview

Altarum was contracted by the State Maine—DHHS Office for Family Independence (OFI) to undertake a rigorous evaluation of *10 Tips for Adults (10 Tips) Series A and Series B* in partnership with the University of New England (UNE), the implementing agency (IA) for Maine SNAP-Ed. Each series emphasized using MyPlate to prepare and serve food: *Series A* focused on the food groups, while *Series B* focused on eating healthy on a budget. The lessons in each series are shown in Figure 1.

Figure 1. Lesson Titles for 10 Tips Series A and Series B

10 Tips Series A	10 Tips Series B
A1. Focus on Whole Fruits	B1. Eating Better on a Budget
A2. Vary Your Veggies	B2. Plan Meals Ahead
A3. Make Half Your Grains Whole Grains	B3. Purchasing Fruits and Veggies at the Best Price
A4. Vary Your Protein Routine	B4. Prepare Healthy Meals for an Active Lifestyle

Objective

The following research questions helped guide the FFY 2018 *10 Tips* outcome evaluation:

- ▲ How often did participants consume fruits, vegetables, whole grains, low-fat or non-fat dairy, sweets, sugar-sweetened beverages, and water?
- ▲ How confident are participants in their ability to shop for and prepare healthy meals on a budget?
- ▲ To what extent are participants able to eat better on a limited budget?

Methods

Altarum employed a nonrandomized retrospective pre/post study design. All *10 Tips Series A* and *Series B* participants were eligible for the study. *10 Tips* series were delivered by nutrition educators in community-based locations throughout Maine where low-income adults live, shop, eat, learn, and work. Data collection occurred between January and September 2018.

Likert scales were used to assess respondents' dietary and budget savvy shopping behaviors. To estimate significant differences between pre- and post-survey responses, Wilcoxon signed rank tests and Z-tests with Bonferroni correction were used. These tests are referred to as paired analysis. To examine the association between the level of course completion (i.e., the number of classes attended) and outcomes of interest, generalized estimating equations for repeated measures were conducted. Significance tests yielding a p -value less than 0.05 were considered statistically significant for this evaluation.

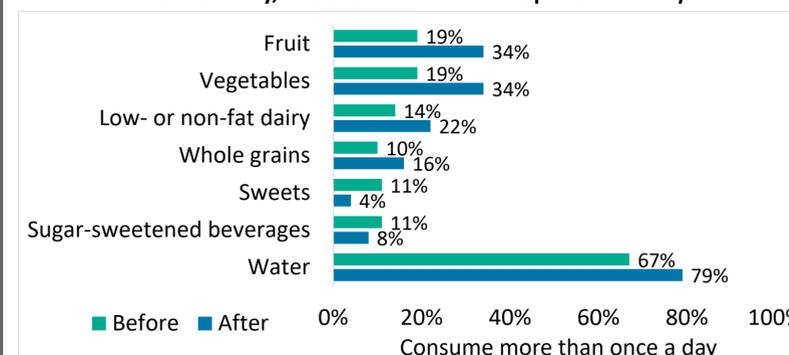
Results

Food and Beverage Consumption

More than half (56%) of respondents participated in *Series A*, while fewer than half (44%) participated in *Series B*. After participation in a series, significantly more respondents reported consuming fruits, vegetables, low- or non-fat dairy, whole grains, and water "more than once a day" (Figure 2), while significantly fewer respondents reported eating sweets this often. Paired analyses revealed significant improvements in all food groups ($p < 0.01$) after participating in a series.



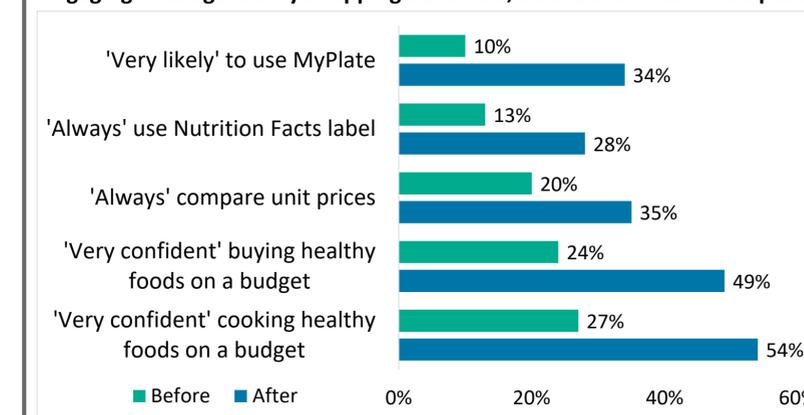
Figure 2. Frequency Participants Consumed Certain Foods and Beverages "More than Once a Day," Before and After Participation in 10 Tips



Budget Savvy Shopping Behaviors

Respondents were asked how likely or how confident they were to practice select budget savvy shopping behaviors. After participating in *10 Tips*, participants significantly improved ($p < 0.001$) each behavior based on paired analysis (Figure 3).

Figure 3. Frequency Participants Engage in or Were Very Confident in Engaging in Budget Savvy Shopping Behaviors, Before and After Participation



Influence of Intervention Completion on Outcomes

Longitudinal modeling was used to determine if the level of exposure to *10 Tips* was associated with improved behavioral outcomes. Compared to those who completed 3 or fewer classes, participants who attended all 4 classes were:

- ▲ 1.7 times as likely to eat vegetables more than once a day
- ▲ 1.7 times as likely to always use the Nutrition Facts label when shopping
- ▲ 0.6 times as likely to drink sugar-sweetened beverages once or more per day

Conclusions

10 Tips participants significantly improved on all measures related to healthy eating, shopping habits, and confidence to buy and prepare foods on a budget after participation in *10 Tips*. Additionally, there is a significant association between the number of classes attended and certain outcomes, including vegetable and sugar-sweetened beverage consumption and use of nutrition facts when shopping for food, suggesting that increased attendance resulted in healthier choices among program participants.