Reducing Food Insecurity and Improving Fruit and Vegetable Intake Among Farmers’ Market Incentive Program Participants

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Learning Objectives

- Summarize the use of farmers’ market incentives as an effort to reduce food insecurity and improve fruit and vegetable intake.

- Describe the methodology and results of the current farmers’ market incentive study.

- Identify the strengths and limitations of the overall approach used in this study.

- Identify and propose implications for future policy based on findings of this study and other similar studies.
The Problem

- Food insecurity is the inability to access a sufficient quantity of safe, affordable, and nutritious foods.
  - Prevalence rate near 14% in the U.S.\(^1\)

- Dietary intake of food insecure individuals is less nutritious and balanced.\(^2\)

- Diets of food insecure individuals are especially low in fruit and vegetables (F&V).\(^3\)

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Farmers’ Market Incentives

- Farmers’ market incentive programs have been established to increase F&V intake and food security status of low-income individuals.

- Programs include but are not limited to:
  - WIC Farmers’ Market Nutrition Program (WIC FMNP)
  - Senior Farmers’ Market Nutrition Program
  - Wholesome Waves’ Double Value Coupon Program
  - Fair Food Networks’ Double Up Food Bucks
Opportunities for Incentive Programs

- Food Insecurity Nutrition Incentive (FINI)
  - $31.5 million in funding provided to test incentive strategies for increasing F&V consumption among SNAP participants.
  - Local, state, and national organizations in 26 states have received funding.
  - Evaluation of these programs will be used to help policymakers determine how to provide incentives to SNAP participants.
Prior Research

- Few studies have been published demonstrating changes in F&V intake and food security status of farmers’ market incentive participants.\(^1,2,3,4\)
  - Kropf et al., (2007) found that food security status did not differ between WIC and WIC FMNP participants.
  - Young et al., (2013) found that participants of Philly Food Bucks were more likely to report higher intakes of F&V as compared to non participants.
  - Herman et al., (2008) and the USDA’s Healthy Incentives Pilot (2014) both found significant increases in F&V consumption among incentive participants.

Need for Research

- Few studies have investigated the effectiveness of matching farmers’ market incentive programs.\(^1\)

- Few studies have used validated measurement tools to compare behaviors before and after program participation.\(^2,3\)

- New local, state, and federal initiatives are investing in the development and implementation of farmers’ market incentive programs.

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Study Objective

- To determine whether the Double Up Food Bucks farmers’ market incentive program improved food security and F&V intake among SNAP participants in Utah.
Double Up Food Bucks was offered at the Downtown Salt Lake City Farmer’s Market in Utah.

SNAP participants were eligible to receive $1 in incentives for every SNAP dollar spent at the market, up to $10 per farmers’ market visit.

Individuals were asked to participate in the study when they first came to receive Double Up Food Bucks.
Study Design

- Pretest posttest study design was used to compare food security status and F&V intake at baseline to 4 week follow up.
- The 28-item baseline survey was administered at the farmers’ market.
- Of the 96 individuals who completed the baseline survey, 54 completed the 16-item follow up phone survey.
- This study was approved by the Institutional Review Board at Utah State University.
Surveys

- Baseline survey
  - 6-item validated F&V module from the Behavioral Risk Factor Surveillance System (BRFSS)
    - Response options from NCI F&V screener were used for self-administration\(^1,2\)
  - 6-item short form Food Security Module validated by the US Department of Agriculture
  - Demographics, use of nutrition assistance, shopping habits, etc.

- Follow Up Survey
  - Same 6-item food security and F&V modules
  - Farmers’ market shopping habits, self-reported changes in F&V intake

1. Thompson et al., 2000; 2. Gulliford, Mahabir, Rocke, 2004
Data Analysis

- Independent sample t tests were used to compare differences in demographic characteristics among participants who completed the baseline survey and those who completed baseline and follow up survey.

- Scale scores were calculated for the food security and F&V modules.

- Wilcoxon signed-rank test were used to compare baseline to follow up for each F&V question, the total F&V score, and the total food security score.
Study Results

- Demographic characteristics were not significantly different between those who completed baseline survey only and those who completed the baseline and follow up survey.

- Participants reported a decrease in food insecurity-related behaviors:
  - Frequency of skipping meals
  - Eating less food
  - Feeling hungry
  - Not having enough money to buy nutritious food

- Median food security score decreased significantly (P<.05) from 3.0 to 2.0.
Question: We cut the size of meals or skipped meals because there wasn’t enough money for food.
Question: We ate less than I felt we should because there wasn’t enough money for food.
Study Results

- Consumption of ‘Other Vegetables’ significantly increased (P=.001).
- 86% of participants reported an increase in F&V consumption.
- 84% of participants reported an increase in the variety of F&V consumed.
Study Implications

- Results suggest vegetable intake and food security status may improve as a result of participation in a farmers’ market incentive program that provide matching incentives.

- Results of this study support the value of continued research regarding the effectiveness of farmers’ market incentive programs.

- Validated modules used in this study could be used among other incentive-based programs.
Study Limitations

- This was a pilot study with a small convenience sample size that was not powered to determine effect sizes.

- The use of a convenience sample limits the generalizability of study results.

- Used self reported data which is subject to bias.

- Causal inference is limited as a result of not having a control group.
Lessons Learned

- Difficulty following up with low-income participants.
- Important to start evaluation efforts when the program is being implemented to get baseline data.
- Need for rigorous evaluation methods to reduce bias.
Future Research

- Further research on farmers’ market incentive programs should investigate longer-term effects and use large sample sizes.

- Objective data such as height, weight, waist circumference, and carotenoids should be compared before and after program participation.

- Qualitative data should be collected to determine participants’ experiences with farmers’ market incentives.
Future Research Cont.

- Determine the amount of matching incentives required to see significant changes in behaviors.
- Study nutrition education integrated with a farmers’ market incentive program.
Questions?
References


