

Brief Report

Social marketing for a farmer's market in an underserved community: A needs assessment

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Significance for public health

This brief report establishes the need for local farmers' markets (FM) in New Orleans, Louisiana to distribute information to increase the awareness of the markets, especially among low-income individuals. A variety of the FMs in New Orleans offer discounts to increase access to fresh produce among underserved individuals. However, there is a lack of knowledge of these markets, the ability to utilize Supplemental Nutrition Assistance Program benefits to purchase food, and of the discounts offered. Furthermore, this assessment demonstrates that low-income individuals have adequate access to the internet and a variety of social media channels. Based on these results, our research establishes that cost-effective and efficient, web-based marketing could be used as means help increase FM participation among low-income individuals. Increasing awareness of FMs and discounts offered to low-income individuals is one step in creating better access to affordable produce, which could lead to increased fruit and vegetable consumption and better health outcomes among at-risk populations.

in underserved communities.^{5,6} The result is the creation of urban food deserts and increased food insecurity among low-income and underserved individuals.²

Establishing urban farmers' markets (FM) in poor and underserved communities has recently been cited as a potentially viable strategy to improve access to FV.⁵⁻⁹ Part of this strategy is to offer purchasing incentives at FMs, such as offering additional discounts to SNAP participants. Incentive programs like *Double Up Food Bucks* offered in 18 states in the U.S. and *Healthy Bucks* in New York.¹⁰⁻¹² In the southern state of Louisiana, New Orleans has several FMs, some of which have been established specifically to serve low-income communities. Despite these efforts, evidence to support that FMs are having the desired impact among low-income residents is inconsistent. Recent studies point to perceptions that food assistance benefits are not accepted, limited food variety, transportation, and lack of racial/ethnic diversity as potential reasons why FMs are not attracting the desired demographic.¹³ However, few published studies measure awareness of FM existence as a potential barrier for utilization of FMs among low-income individuals.¹³

In the summer of 2014, researchers from the Louisiana State University School of Public Health partnered with the Hollygrove Market and Farm (HMF) to better understand what impact local FMs were having in urban food deserts in the greater New Orleans area. HMF was a target site because it is located in an underserved neighbourhood with an underutilized FM among community residents and low-income individuals enrolled in SNAP. Discussions with our community partners suggested that low-income residents were not using FMs either because they were not aware that they existed nor that they also accepted SNAP. Therefore, the purpose of this exploratory study was to assess the awareness of FM among local residents in New Orleans in a disadvantaged neighbourhood. The secondary purpose of this study was to obtain demographic profiles of residents in and around the Hollygrove neighbourhood. The results from this exploratory study were used to gain a better understanding of the target population for the purposes of developing a pilot social marketing campaign to increase FM awareness.

Abstract

The aim of the present paper is to assess local residents' awareness of utilizing Supplemental Nutrition Assistance Program (SNAP) benefits to purchase fresh produce at local farmers' markets, and to determine internet use and media preferences of study participants prior to implementation of a social marketing campaign. A needs assessment was conducted to collect baseline data in an underserved neighbourhood in New Orleans (La, USA). The study was carried out August 2014-May 2015. The assessment revealed that 73% of the respondents were unaware that the SNAP benefits could be used to purchase food in farmers' markets; 63% of low-income participants never attended a farmers' market compared to 27% of mid/high-income. Over 50% of the low-income respondents have access to the internet at least once per day. The results show the potential of raising awareness among a wide range of members in the community. This needs assessment will serve as the foundation for a social marketing intervention, which will be disseminated city-wide.

Theoretical model

For the theoretical consideration of this study, we incorporated the Transtheoretical Model (TM) as a basis for health behaviour change, which posits that *awareness* of a fact or concept is the first step for the progression to behavioural change. The progression of steps to behaviour change according to the TM are pre-contemplation, contemplation, preparation, action and maintenance. One strength of the TM is that it allows researchers to customize health communication messages according to the level of progression of the target audience, with the ultimate goal of achieving maintenance of the desired behaviour change. Based on

Introduction

Fruit and vegetable (FV) consumption in the United States (US) is a public health issue that many federal, state and local organizations are trying to address.^{1,2} Healthy People 2020 aims to increase the contribution of fruits and vegetables to the American diet.³ Unfortunately, in the U.S., FV consumption is lower among low-income individuals.⁴ One factor contributing to this disparity, is the lack of healthy food retailers/produce options

informal discussions we had with FM staff and community partners, we hypothesized that a lack of awareness (precontemplation), both of the existence of FMs and that purchasing incentives were available, was at least partially explaining why local residents were not utilizing neighbourhood FMs. According to the TM, if awareness is not achieved then the individual will not make the progression to the next step.

Methods

Study design and participants

The main hypothesis tested here was that local residents were not aware of local FM and purchasing incentives offered to SNAP participants in and around the Hollygrove neighbourhood in New Orleans. A cross-sectional study design was used to collect quantitative survey data over a two-month timespan in predominantly low-income residents. As part of this study, we also assessed internet use and satisfaction of a variety of media to better inform the design of a social marketing campaign to increase FM use.

Survey

A 23-item questionnaire was developed to assess demographic information, awareness of farmers' markets in N.O., behaviours regarding food purchasing, internet use, diet, and preference of a variety of marketing media. Questionnaire format included binary questions and likert-ranked statements. Prior to administration, the questionnaire was checked by content experts for content and face validity. Feedback from the questionnaires regarding the social media use and preferred ways of marketing aided in the development of target specific social marketing tools, e.g. a website, Facebook and Instagram accounts, promotional cards, and flyers. An expedited research application was submitted and approved by Louisiana State University Health Sciences Center Institutional Review Board prior to initiation of the study.

Data collection and analysis

The study coordinator, two community volunteers and six Louisiana State University Health Sciences Center student volunteers distributed questionnaires to participants at community events such as neighbourhood movie nights, seniors' meetings and church services. The completed questionnaires were handed back to the volunteers the same evening. A signed informed consent document was required before participants were allowed to proceed with completion of the questionnaire. Data were recorded in locked Excel® spread sheets and analysed using SAS 9.4 software. Descriptive statistics were used to summarize the studied population. Participation in the SNAP program and knowledge about benefits provided by the Hollygrove farmers' market were both summarized through frequencies. Due to low frequencies in some categories, Fisher's Exact Test with significance level of 0.05 was used to test for association between pairs of variables of primary interest.

Results

A total of 50 questionnaires were collected from study participants. Demographics of this sample are displayed in Table 1. Gender was evenly split, with the majority of participants self-identified as African American and either single or divorced. Just

under half of the sample had a high school education or equivalent. The average age was 44.56 years old SD=15.57 (18-79, median=41). Participants were classified as either low- (<\$30,000, n=27, 55%), mid- (\$30,000-59,000, n=15, 31%), or high-income (≥\$60,000, n=7, 14%) based on self-reported annual household income. For comparison purposes, income groups were further collapsed into low- and mid/high-income. A total of nine participants were enrolled in SNAP; eight low-income participants and one mid/high-income. The majority of respondents (N=30) lived in Hollygrove (an underserved neighbourhood with access to a FM seven days per week), 18 respondents lived in neighbouring communities, and 2 respondents did not report their address. The FM located in Hollygrove offers a 20% discount to neighbourhood residents and SNAP participants, which would provide benefits to a maximum of 39 individuals who participated in the study.

Participants were asked about FM use and awareness of SNAP incentives (Table 2). The majority (n=35, 73%) of participants were not aware that FM accepted SNAP. Similarly, most participants (n=37, 77%) were not aware that patrons could receive additional discounts with SNAP purchases. Just over half of the entire sample (n=27, 54%) had reported ever attending a FM. Eleven participants (22%) believed that shopping at FM was more difficult than shopping at a grocery store, regardless of whether or not they had ever been to a FM before. When compared by income groups, nearly two-thirds (63%) of low-income participants had never attended a FM as compared to 27% of mid/high-income ($\chi^2=6.2$, d.f.=1, P=0.01).

Nearly 75% of participants in all income levels report eating the United States Department of Agriculture (USDA) recommended amount of FV on a daily basis.¹⁴ Participant household income levels did not determine the amount of money that was typically spent on FV on a weekly basis; 68% (n=34) respondents reported spending \$10-\$29 on FV each week. Internet access and social media use and preferences are described in Table 3. Most participants reported having access to the internet (68% of all participants

Table 1. Demographics of sample (N=50).

Characteristics	N (%)
Gender	
Male	25 (50)
Female	25 (50)
Age	
18-39	24 (48)
40-59	19 (38)
≥60	7 (14)
Ethnicity	
African American	40 (82)
Caucasian	9 (18)
Income*	
Low	27 (55)
Mid/High	22 (45)
Marital status	
Married	14 (28)
Single	22 (44)
Divorced	14 (28)
Education	
Less than high school	3 (6)
High school diploma or GED	23 (46)
College or higher	23 (46)
Other	1 (2)

*1 participant chose not to disclose their ethnicity or income.

and 52% of low-income). Over 50% of the low-income participant population reported having high internet access (access to the internet multiple times per day), and 79% of low-income participants that reported having access to the internet also reported having a social media account. Additionally, participants were asked to rate a variety of marketing media, including electronic and print tools, on a Likert scale (1=strongly dislike to 5=strongly like). Results indicated a high satisfaction with all of the marketing media listed, particularly the website and e-mails. Furthermore, 25 (50%) participants had a Facebook account, 12 (24%) had an Instagram account and 12 (24%) had a Twitter account.

Discussion

This exploratory study clearly establishes that a lack of community awareness of local FM may be a barrier to residents' utilizing local FMs, which is associated with increased food insecurity.¹⁵ Regardless of household income, there was also an overall lack of awareness that FMs offers SNAP discounts. This finding is noteworthy as national data shows that SNAP participation is positively associated with food security.¹⁵ In our sample, Hollygrove

residents were not aware that the local HMF offered an additional discount for living in the Hollygrove area. Similarly, Pitts and colleagues also found that most low-income residents were unaware of farmers' market located closest to their home address.¹⁶ According to Pitts, other barriers to FM use included a lack of knowledge of market locations and high prices.¹⁶ Most participants in our study did not feel that shopping in FMs was more difficult than *regular grocery stores*.

Additionally, we learned that communication via the internet and social media could be viable among low-income individuals. This finding is corroborated by Bensely and colleagues, who also recommend delivering nutrition education to SNAP participants via the internet, social media and web applications.^{17,18} Using the internet and social media is a relatively unexplored yet potentially feasible method to help SNAP participants improve dietary behaviours.

Contrary to national data (U.S. consensus findings report between 26 and 32%),¹⁹ most of our participants reported that they typically consumed the recommended¹⁴ servings of fruits and vegetables. However, we hypothesize that consumption rates would improve among SNAP participants once they are aware of the HMF and associated purchasing discounts; this will be tested in a future study. We found that varying income levels among our

Table 2. Farmers market awareness and utilization.

Questions	Low-income, n=27, n(%)	Mid/high-income, n=22, n(%)
Have you ever been to a farmers' market?		
Yes	10 (37)	16 (73)*
No	17 (63)	6 (27)
Shopping in farmers' markets is harder than shopping in a regular grocery stores?		
Yes	7 (28)	4 (21)
No	16 (64)	15 (79)
Did you know that most farmers markets' in the city accept the LPC card for SNAP purchases?		
Yes	5 (20)	8 (36)
No	20 (80)	14 (64)
Did you know that almost all farmers' markets in the city offer a discount when you purchase with the LPC card for SNAP purchases?		
Yes	6 (24)	5 (23)
No	19 (76)	17 (77)

*Significantly higher percent yes than low-income P<0.05.

Table 3. Internet access, social media use and media satisfaction by income groups.

Questions	Low-income	Mid/high-income
Do you have access to the internet? n (%)		
Yes	14 (52)	20 (91)
No	13 (48)	2 (9)
What social media sites are you currently a member of? n (%)		
Facebook	11 (41)	14 (64)
Twitter	4 (15)	8 (36)
Instagram	4 (15)	8 (36)
Tumblr	0	0
Pinterest	1 (4)	2 (9)
Other	1 (4)	2 (9)
Please rate your satisfaction with the following marketing media* Mean (SD)		
Website	3.6 (1.3)	4.1 (1.3)
Facebook	3.6 (1.0)	3.4 (1.2)
Instagram	3.3 (1.0)	3.5 (1.3)
Postcards	3.7 (1.3)	3.6 (1.1)

*Range of 1-5, 1=strongly dislike; 5=strongly like.

respondents was not a predictor of how many fruits and vegetables individuals consumed nor the amount of money they spend on produce each week. Regardless, it is important to continue to promote accessibility and consumption of affordable produce in low-income populations.

Although the study team successfully collected completed questionnaires and analysed the results, there are limitations that need to be discussed. Because of limited funding and time constraints, we were not able to collect data from a large number of participants. Furthermore, we were not able to pilot test the questionnaire. As a result, we acknowledge that findings from this study may not be an accurate generalization of the greater population of New Orleans. In addition, the potential for responder bias of self-reported dietary intake was still present and thus our findings may not be a reliable assessment of actual fruit and vegetable consumption. Lastly, the researchers categorized our participant population as low-income, mid-income and high-income based on the gross annual income of a household of four people.²⁰ This determination of income levels may not be an exact assessment of income status of our participants based on government standards as size of household was not included in the evaluation.

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participants. Additionally, participants reported strongly liking a variety of marketing media, which can be used to communicate important nutrition related information. Social marketing can be a cost effective and efficient means to disseminate information to positively change individual and populations' behaviours. The results from this exploratory study indicate that a social marketing campaign may provide an affordable method to communicate with Hollygrove residents and/or SNAP recipients in an effort to raise awareness of the HMF and the discounts offered among underserved populations. This information will serve as the foundation for an established campaign, which will be disseminated to SNAP participants via the internet.

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Conclusions

The project successfully collected baseline data that establishes a lack of awareness of FM existence and the discounts and services they provide among New Orleans residents and/or SNAP

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