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Behaviors, motivators, and barriers of consumers and non- consumers at local farmers markets in Costa Rica

Comportamientos, motivaciones y barreras de usuarios y no usuarios de ferias del agricultor en Costa Rica

Abstract

Objectives: To examine purchasing behaviors and perceptions related to farmers markets' use in a sample of farmers market shoppers and non-shoppers. **Methods:** Cross-sectional, with the use of a structured survey instrument to assess participants living within one kilometer of a farmers market (n=240). Quantitative analysis included descriptive statistics, as well as bivariate analysis to compare shoppers and non-shoppers. Open-ended questions were analyzed using thematic coding. **Results:** 56% were farmers market shoppers, and mostly female adults. Shoppers had similar incomes but lower education than non-shoppers. Among shoppers, price, freshness, and proximity were the main perceived benefits. Among non-shoppers, hours of operation, lack of time, and high prices were main barriers not to attend the farmers market. **Conclusions:** Our findings provide farmers market managers and vendors information on potential improvements. In addition, promotion messages can be tailored to highlight benefits and ways to overcome

barriers for attending farmers markets, leading to more effective marketing strategies to promote their use.

Keywords: Farmers markets. Produce. Purchasing behaviors. Fruit. Vegetables.

Resumen

Objetivo. Examinar los comportamientos de compra y las percepciones relacionadas con el uso de ferias del agricultor en una muestra de usuarios y no usuarios de las mismas. **Metodología.** Diseño transversal, con el uso de una encuesta estructurada en participantes viviendo a un kilómetro de distancia o menos de dos ferias del agricultor específicas (n=240). El análisis cuantitativo incluyó estadísticas descriptivas y bivariadas para comparar usuarios con no usuarios. Las preguntas abiertas se analizaron utilizando codificación temática. **Resultados.** 56% de la muestra fue usuaria de la feria del agricultor, y en su mayoría, mujeres adultas. Las usuarias tenían ingreso similar, pero nivel educativo menor que las no usuarias. En usuarias, el precio, la calidad de producto y la proximidad a la feria fueron las principales motivaciones de uso. En no usuarias, las horas de operación, la falta de tiempo y los precios fueron las principales barreras. **Conclusión.** Los hallazgos profundizan en potenciales mejoras de las ferias del agricultor. Los mensajes de promoción se pueden adaptar para resaltar los beneficios que ya son conocidos de las ferias, lo cual conduciría a estrategias de mercadeo más efectivas para promover su uso.

Palabras clave: Ferias del Agricultor. Productos Agrícolas. Comportamientos de Compra. Frutas. Vegetales.



INTRODUCTION

Consumption of fruits and vegetables decreases the risks of cardiovascular disease, some types of cancers, and other chronic diseases.¹ The World Health Organization has prompted countries to implement programs and policies that increase availability, affordability, and consumption of fruit and vegetables.² Likewise, the Costa Rican National Food Guidelines recommend the general population consume a minimum of five servings of fruits and vegetables daily.³ However, only 35.9% of the population reaches this recommendation.⁴

The promotion of farmers markets (FM) is a strategy to increase community-wide fruit and vegetable consumption⁵ due to their potential of increasing access to fresh fruits and vegetables.⁶ Participation in FM nutrition programs has been related to an increase in the intake of this food group,⁶⁻⁸ especially when considering the opportunity of implementing nutrition education activities within this context.⁹⁻¹²

In addition, FM are considered local markets that contribute to sustainable food systems, due to the key characteristics in their chain supply and marketing. Among these key characteristics, are the social relations of reciprocity and trust between producers and consumers, the accessibility of markets to communities, and the possibility of assessing the origin of the food, which is linked to a symbolic identity.¹³ FM have also been promoted in the past as a way of improving the food and nutritional security of disadvantaged households¹⁴⁻¹⁶ by providing economic incentives for their use.

Costa Rica's National Farmers Market program was created more than 30 years ago to benefit both consumers and farmers in a way in which consumers obtain better price and quality, while farmers increase their income by selling directly to the consumer.¹⁷ A typical Costa Rican FM brings together between 100-350 farmers, and is usually held once a week either Saturday or Sunday. Despite over 80 participating farmers markets nationwide, the percent of consumers that prefer this outlet as their main venue for fruit and vegetable purchases decreased between 2012 and 2015.¹⁸ To our knowledge, there are no published studies regarding the reasons of this decline which makes it difficult to design and implement actions towards the improvement of these markets.

Barriers to attend farmers markets (in other settings) previously identified include inconvenient location, hours, and price,¹⁹ but research is usually conducted only with consumers which limits the inclusion of the viewpoint of those who do not attend these markets. Understanding the reasons that motivate people to buy products from FM can guide marketing efforts.²⁰ To address the current gaps in the literature, this study aimed examine purchase behaviors, motivators, and barriers for FM use among both current consumers and non-consumers of these venues.

METHODS

Study Setting and Participants

This cross-sectional study was part of a larger project led by the School of Nutrition at the University of Costa Rica between years 2012 and 2016, which took place in two specific FM that had been functioning for more than five years: Tres Ríos and La Villa Olímpica de Desamparados. These two sites were selected due to key differences in their conditions. The Tres Ríos FM takes place on the streets of the town, with approximately 350 farmers participating in it. La Villa, in contrast, has better infrastructure conditions, including bathrooms and a large permanent roof over the vending area. Other characteristics of these two locations have been described elsewhere.^{21,22}

Since we were interested in including both consumers and non-consumers in our sample, our sampling strategy involved selecting households in close proximity to these FMs, instead of participants at the markets.

A two-stage sample of households in the 1 km (~3000 feet) perimeter of the two FMs was selected. Sampling frame was a list of Minimum Geostatistics Units (MGU), based on census data in each area, for which we randomly selected 50 MGU, and ten households were then randomly selected from each MGU. That is, a total of 500 households were selected, with the goal of recruiting 240 participants. Inclusion criteria for participating in the study were: living in the selected household, being 18 years old or more, and having food-purchasing responsibilities for the household.

Data Collection

Participants were interviewed with a structured, face-to-face questionnaire at respondents' homes by trained, graduate nutrition students. The instrument was developed using an iterative process between project researchers and graduate students. An initial set of questions was drafted based on the constructs of knowledge, attitudes and practices²³ related to FM use, as well as previous research conducted in this setting.^{5,24} These questions were pre-tested with a group of adults who were then verbally probed to assess question clarity and ease of interpretation. Modifications were then made and tested again on a different set of adults.

The final survey instrument included both open- and closed-ended questions, measuring produce-purchasing behaviors (5 items), FM awareness and purchase behaviors (10 items), perceptions around FM (13 items), and socio-demographic characteristics (10 items). A more detailed description of survey items is provided below.



Purchase behavior of agricultural products

Participants were asked whether they purchased (i) fruits, (ii) non-starchy vegetables, (iii) starchy vegetables, and (iv) legumes, in the following locations: (a) farmers market (b) supermarket (c) small store (e.g. "pulpería" or "verdulería"), (d) street vendor or (e) other, over the past month. Then, they were asked which of those locations were more frequently used, followed by the frequency of purchase over the past month (none, one, two, three, four or more) of the same four product categories. Finally, participants were asked approximately how much money they spent on food per month (seven categories, and specific amount), as well as how much money they typically spent on agricultural products per month (seven categories, and specific amount).

Farmers' market awareness and purchase behaviors

Participants were asked whether they were aware that they lived near a FM (yes/no), and how they became aware of this FM (if applicable). They were then asked if they had ever shopped at their local FM (yes/no) and how often they had shopped there over the past month (if applicable).

For participants who bought at their local FM two times or more over the past month, purchase behaviors were assessed by asking which products they bought (at their local FM) over the past month, with the following list being read to all participants: fruits, non-starchy vegetables, starchy vegetables, fresh meats, processed meats, eggs, cheese, prepared foods, flowers, and baked goods. The approximate amount of money spent on a typical visit to the FM was then assessed, as well as the transportation used to commute to and from the FM. Finally, participants were also asked "Why do you shop at the farmers market?"

For participants that reported either not buying or buying only once at their local FM over the past month, we asked the question "Why do you think you do not shop at the FM more frequently?"

Perceptions on their local farmers market

FM perceptions were first assessed by asking participants "What do you consider are the main strengths of this farmers market?", "What do you consider are the main weaknesses of this farmers market?", and "Can you share with me some of the feelings that you have when you visit the farmers market?". These were open ended questions, and interviewers took detailed notes of participants' responses. We then asked participants to rate the following characteristics of the FM on a scale of 1 (very poor) to 5 (very good): variety and quality of produce, customer service, hygiene at selling point, food safety of produce, vendor's personal hygiene and promotion strategies, the market's infrastructure and advertising techniques, and prices.

Demographic characteristics

The following variables were assessed: district of residence, sex, age, number of members in the household, marital status (married, living with partner, single, separated/divorced widowed), education level (11 categories provided), work schedule (full time, part time, unemployed), type of work (permanent, temporary, unemployed), type of occupation (9 categories provided), and family income (9 categories provided).

The University of Costa Rica’s Ethics Committee reviewed the study protocol, and all participants completed a written informed consent form prior to enrolling in the study.

Analyses

Quantitative analysis was performed with SPSS software, version 15.0. Bivariate statistical analysis (chi-square test) was used to compare characteristics of consumers and non-consumers of FM. Participants who had visited the FM two or more times during the previous month were considered consumers whereas the rest were considered non-consumers. Descriptive statistics were used to analyze purchase behaviors. Open-ended questions were analyzed in QDA Miner Lite, version 1.3 using a thematic coding approach.

RESULTS

Study Participants

The mean age for consumers, 50.3 years (SD=15.9), did not differ from the mean age of non-consumers (50.9 years, SD=16.60, p=0.78). (Table 1). Consumers were mostly female adults (75.6%), and married or living with a partner (65.2%). Overall, demographic characteristics did not differ between consumers and non-consumers.

Table 1. Demographic Characteristics of Total Sample, Consumers and Non-Consumers. San José, Costa Rica, 2013.

Variable	Total Sample ¹ (n=240)		Consumers (n=135)		Non-Consumers (n=105)		p-value
	n	%	n	%	n	%	
Sex							
Female	186	77.5%	102	75.6%	84	80.0%	0.440
Male	54	22.5%	33	24.4%	21	20.0%	
Age (years)							
Less than 25	15	6.3%	11	8.1%	4	3.8%	
25-44.9	64	26.7%	31	23.0%	33	31.4%	



Table 1. Demographic Characteristics of Total Sample, Consumers and Non-Consumers. San José, Costa Rica, 2013. (cont.)

Variable	Total Sample ¹ (n=240)		Consumers (n=135)		Non-Consumers (n=105)		p-value
	n	%	n	%	n	%	
45-64.9	106	44.2%	66	48.9%	40	38.1%	0.108
65 or more	55	22.9%	27	20.0%	28	26.7%	
Marital status							
Married	128	53.3%	76	56.3%	52	49.5%	0.382
Living with partner	18	7.5%	12	8.9%	6	5.7%	
Single	41	17.1%	23	17.0%	18	17.1%	
Divorced	20	8.3%	10	7.4%	10	9.5%	
Widowed	33	13.8%	14	10.4%	19	18.1%	
Education level							
Primary complete or less	71	29.6%	42	31.1%	29	27.6%	0.133
Secondary incomplete	45	18.8%	30	22.2%	15	14.3%	
Secondary complete	41	17.1%	24	17.8%	17	16.2%	
University incomplete	34	14.2%	19	14.1%	15	14.3%	
University complete	49	20.4%	20	14.8%	29	27.6%	
Household monthly income²							
Less than \$595.2	36	20.1%	22	20.0%	14	13.3%	0.972
\$595.2-\$992.1	49	27.4%	31	28.2%	18	17.1%	
\$992.2 - \$1388.9	30	16.8%	19	17.3%	11	10.5%	
\$1389.0 or more	64	35.8%	38	34.5%	26	24.8%	

¹n=179 for “Household income”

²for chi-square test

³question asked in local currency, “colón”. Exchange rate, July 30th 2013, \$1=504 colones. The minimum wage at the same date was 257.220 colones (~\$510.36).

Purchase behavior of agricultural products

Consumers purchased fruits, non-starchy vegetables, and starchy vegetables more frequently than non-consumers during the past month. Frequency of purchase of beans or legumes did not differ between groups (Table 2).

Table 2. Frequency of Produce Purchases of Total Sample, Consumers and Non-Consumers. San José, Costa Rica, 2013.

Produce Category	Total Sample ¹ (n=240)		Consumers (n=135)		Non-Consumers (n=105)		p-value
	n	%	n	%	n	%	
<i>Fruits</i>							
< 1/month	10	4.2%	2	1.5%	8	7.6%	
2-3 times /month	67	27.9%	36	26.7%	31	29.5%	
4 or more/month	163	67.9%	97	71.9%	66	62.9%	0.045
<i>Non-Starchy Vegetables</i>							
< 1/month	12	5.0%	2	1.5%	10	9.5%	
2-3 times /month	81	33.8%	39	28.9%	42	40.0%	
4 or more/month	147	61.3%	94	69.6%	53	50.5%	0.001
<i>Starchy Vegetables²</i>							
< 1/month	20	8.4%	5	3.7%	15	14.4%	
2-3 times /month	83	34.7%	43	31.9%	40	38.5%	
4 or more/month	136	56.9%	87	64.4%	49	47.1%	0.002
<i>Beans or legumes</i>							
< 1/month	89	37.4%	46	34.3%	43	41.3%	
2-3 times /month	102	42.9%	60	44.8%	42	40.4%	
4 or more/month	47	19.7%	28	20.9%	19	18.3%	0.538

¹n=239 for “Starchy vegetables”, n=238 for “Beans and legumes”.

²Examples of starchy vegetables include potatoes, sweet potatoes, yucca, tiquisque, malanga, among others.

In the past month, FM consumers had preferred the FM as their place for purchasing fruits (85.8%), non-starchy vegetables (88.9%), and starchy vegetables (87.4%). On the other hand, non-consumers preferred the supermarket for these products (56.2%, 56.7% and 59.0% respectively). Both consumers and non-consumers purchased beans or legumes mainly at the supermarket.

Nearly all study participants (99.2%, n=238) were aware that they lived close to a FM, and had been to it at least once in their lifetimes (95.0%, n=228). The ways consumers and non-consumers found out about the FM were via word-of-mouth or observing it (87.8%); “megaphoning” (7.0%) or others (4.6%), including handouts/posters, radio, television, or newspaper ads. Megaphoning is a common practice, particularly in small towns in Costa Rica, in which an “advertising car” will drive through streets and promote upcoming community activities.

During the past month, the sample had shopped at the FM zero (35.0%), one (8.8%), two (20.0%), three (2.9%) or four or more (33.3%) times. Note that we have considered FM consumers, to be people who purchase goods two or more times at the FM during the previous month; therefore, a total of 56.2% of our sample consisted of FM consumers.

More than half of FM consumers (54.2%) spent roughly between \$18 and \$37 on a typical FM visit. The products most commonly purchased by consumers at the FM during the past month were fruits (97.0%), starchy vegetables (94.1%), non-starchy vegetables (94.8%), cheese (32.6%), eggs (31.1%) and meat (22.2%).

Transportation means used to get to the FM include walking (67.2%) or driving their own vehicle (30.6%). Similarly, to leave the FM, consumers walk (56.0%), drive a personal vehicle (30.6%), or take a taxi (11.9%).

Perceptions, motivators and barriers

Variety of produce was the aspect most favorably assessed by consumers, followed by quality of produce and customer service (Table 3). Advertising techniques of FMs were rated most unfavorably in most of this sample. This includes billboards, ads, and fly-outs, among other things used to promote the markets.

Table 3. Consumers Perceptions of different aspects of the Farmers' Market (n1=135). San José, Costa Rica, 2013.

FM Characteristic	Favorable ²		Indifferent		Unfavorable	
	n	%	n	%	n	%
Variety of produce	130	96.3%	0	0.0%	5	3.7%
Quality of produce	122	90.4%	2	1.5%	11	8.1%
Customer service	118	87.4%	2	1.5%	15	11.1%
Hygiene at vending point	89	65.9%	7	5.2%	39	28.9%
Food safety of produce	88	65.2%	15	11.1%	32	23.7%
Vendors' personal hygiene	86	63.7%	13	9.6%	36	26.7%
Vendors' promotion strategies	82	60.7%	16	11.9%	36	26.9%
Market's infrastructure	71	52.6%	21	15.6%	43	31.9%
Prices	44	32.6%	26	19.4%	64	47.8%
Market's advertising techniques	36	26.7%	71	53.8%	25	18.9%

¹n=134 for “Vendors' promotion strategies” and “Prices”; n=132 for Market's advertising techniques.

²Favorable includes “Very good”, “good” and “cheap” or “very cheap” (for the aspect of price); unfavorable includes “Poor”, “very poor” and “expensive” or “very expensive”.

Qualitative data sought to understand consumers' and non-consumers' perceptions of FMs, including the motivators and barriers to attend, which were related to perceived strengths and weaknesses of FM.

Perceived strengths of a given FM (Table 4) were generally related to characteristics of produce sold at the market, such as quality, price, and variety. Interestingly, not only consumers mentioned aspects related to quality, price, and variety when referring to FM strengths, but non-consumers were also aware that products at FMs are usually of better quality, variety, and lower price than other venues. If non-consumers recognize this, the reasons for not attending their local FM likely relate more to either personal barriers or to its perceived weaknesses having a greater importance than its perceived strengths.

Table 4. Consumers “and potential Consumers” perceptions of farmers markets. San José, Costa Rica, 2013.

Themes	Sample quotes
Strengths	
Quality	“freshness”, “I feel motivated due to the freshness of the products”, “everything seems good quality”, “you want to buy because everything is fresh”
Price	“cheap”, “good prices”, “cheaper than the grocery store or vegetable stand”, “I go to save money, it’s a place where produce is cheaper”
Variety	“you feel good buying, because you can choose the products you want”, “you have the possibility of looking for and selecting the best”, “the variety is huge”
Customer service	“vendors are kind”, “attention is good”, “there is a good relationship with farmers”, “you become friends with vendors”
Convenient location	“closeness”, “accessible”, “I feel good because I shop and it is close”, “conveniently located”, “centrally located”.
Recreation	“I see people I know, and I can also say hello as I shop”, “for me it is social life, saying hello, hugs, seeing people you haven’t seen”, “I see it as a trip with my dog, I talk, I shop”
Weaknesses	
Lack of hygiene	“it’s very dirty afterwards, there are puddles that can cause dengue”, “ [they should work on] getting organized to collect garbage left after [the market]”, “poor hygiene, that’s why we don’t buy meat, cheese or prepared foods. You don’t see toilets or sinks for vendors”, “cleanliness, sometimes vendors leave garbage in the sewers and aisles, it’s a problem when it rains”
Pricing	“prices vary greatly from one place to another”, “prices should improve because although they are OK, they are more expensive than at other farmers markets”, “too expensive”, “sometimes it is more expensive than the supermarket”, “some vendors don’t have their prices visible to compare”

Table 4. Consumers “and potential Consumers” perceptions of farmers markets. San José, Costa Rica, 2013. (cont.)

Themes	Sample quotes
Lack of space	“the aisles are very narrow”, “make the market bigger, it is a single aisle, very uncomfortable and carts [used to carry produce] crash”, “the space is very narrow, it is difficult to move around”, “inadequate physical space for farmers”

Lack of hygiene, pricing issues, and lack of space were the most commonly mentioned weaknesses for the FM. When hygiene was mentioned, people were mainly concerned about the conditions in which meat, poultry, and cheese are sold. They also mentioned the trash that is left behind when the FM is over (despite there being a program in place for trash pickup). As far as pricing was concerned, several respondents mentioned high prices, either in general, or in comparison to another FM or supermarket. Other respondents were concerned by not being able to compare prices between different vendors, since they are not visible with a price sign. Finally, lack of space referred to the feeling that the FM is crowded, and it is difficult to move around. Our qualitative data complemented the structured rating of different aspects of the FM and provided additional understanding of high and low scores for these.

In addition, several personal barriers were identified, which are not necessarily considered FM strengths or weaknesses. Lack of convenience was the most common barrier for attending the FM, which was expressed in phrases such as *“there are closer places to buy”*, *“I have a vegetable shop close to my house”*, and *“I prefer going to the supermarket and buying everything at once”*. The perception that going the FM involves purchasing large quantities of produce was evident. *“I feel lazy about carrying everything”*, *“it is too much load for myself”* and *“it is uncomfortable to carry so many bags”* are a few examples of how people express discomfort associated with this perception. Additionally, one respondent also proposed that farmers *“should sell in smaller quantities of products, smaller packages”*.

DISCUSSION

This study examined socio-demographic characteristics, purchase behaviors, and perceptions related FM use in a sample of FM consumers and non-consumers. Despite living at a distance of less than 1 km from distance of the FM, only 56.3% of participants had shopped at the FM more than once within the past month.

Our findings related to age and gender of FM consumers are consistent with studies conducted in other countries. A literature review that sought to characterize FM consumers found that they are more likely to be female with an average age of over 40. However, our

results differ with respect to their education level; the consumers of our study were slightly less educated than non-consumers (although the differences were not significant), differing from studies in which consumers tend to have higher education and annual income levels.²⁵ This might be explained by the prices of produce being less at FMs than at supermarkets in Costa Rica, which might, therefore, be an additional motivation for lower-income households to attend FM there.

The relationship between fruit and vegetable purchase and consumption at FM, has previously been documented. One study found that women with higher consumption of fruits and vegetables were more likely to use FMs.²⁶ Other studies have provided evidence that offering vouchers for purchasing produce at FMs increases consumption of fruits and vegetables,⁶ and participation in a Farmers Market Nutrition Program has been positively associated with indicators of increased fruit and vegetable intake.²⁷ In addition, greater vegetable availability within residence has been shown to be a positive predictor of vegetable intake.²⁸ FMs increase access to fruits and vegetables^{29,30} and, therefore, could have a positive effect on the consumption of these foods in the population. We explored purchase behaviors of products and found that consumers bought fruits and vegetables more frequently than non-consumers during the past month and they also reported spending a greater amount of money per month in agricultural products. Despite the fact that an increased frequency and quantity of purchase of these foods could lead to an increase in consumption, it is impossible to determine whether that was the case in our study sample because we assessed purchase and not consumption.

Most of our sample was aware of the existence of the FMs, and they had heard of these local markets by word of mouth or observing them, which differs slightly from another study in which road signs and the newspaper were the most common way for customers to find out about a market.¹⁰ Since our study sample included people living within 1 km from the FM, our findings were anticipated, and, therefore, they had probably seen it at some point in time. However, there is an opportunity to improve the means by which FMs are promoted, and to use different advertising techniques to attract customers passing through, or to attract those that live close to the FM, but choose not to use them.

By including both consumers and non-consumers, we were able to explore perceptions in those who are currently not shopping at the markets and could potentially become consumers. Furthermore, by including only people that lived within a one-km radius of an existing FM, distance to travel to the venue was likely not an issue for not assisting, which allowed for further exploration of motivators and barriers.

When consumers were asked to rate their perception on different aspects of a FM, variety of products was the aspect most favorably assessed by consumers, followed by quality of products and customer service. In addition, our study sample recognized pricing, conve-



nience of location, and opportunity for recreation as FM strengths. Other studies have found that aspects related to the product itself (such as taste, freshness, quality, and appearance) are important^{24,25,31-34} as well as a good price,^{24,25,32,34} support for local farmers, and welcoming atmosphere.^{24,31-33}

Previous research conducted in the United States and other high-income countries has identified multiple economic, service delivery, spatial-temporal, social, and personal factors that influence FM use.³⁵ In our study, a mix of perceived FM weaknesses interplay with barriers that could be considered more personal in their nature, as well as misconceptions regarding FM functioning, when determining the reasons why non-consumers decide not to attend the FMs. The main FM weaknesses mentioned by our sample were lack of hygiene, pricing, and a lack of space. Barriers included lack of convenience and the misperception that going to the FM involves buying only large quantities that are hard to carry. Other studies have found that lack of transportation or distance to FMs,^{14,26} knowledge of market location,¹⁴ not being able to use a credit/debit card to pay,²⁷ lack of variety²⁶ and unfavorable weather^{26,36,37} are common barriers to attend FMs. It is important to note that in the Costa Rican context, consumers are not generally aware of the roles and responsibilities of other entities involved with a FM, such as the administrators, the local municipalities and the county agriculture centers. In many cases, they are unaware of how to communicate their concerns about the FM in order for them to improve.

Both consumers and non-consumers mentioned the lack of hygiene as a weakness for their local FM, including the lack of restrooms for farmers and customers, a lack of hand washing facilities, and the weak trash-collection system for after the FM. This is the case in other contexts, as well.³⁸ In Costa Rica, FM regulations exist and provide basic hygiene and food safety guidelines for vendors. However, the types of locations in which FM are conducted vary widely, and, in many cases, lack conditions to provide customers with a satisfactory visit.

There are multiple motivations and barriers to buying local, and beliefs and perceptions interact with economic barriers, lack of access, and other types of barriers to purchasing local foods.³⁹ However, by recognizing the common barriers mentioned by non-consumers, more effective marketing messages can be tailored to address these, and particular FM weaknesses can be included as potential improvements for FM managers.

Our study has several limitations. First, all surveys were conducted face-to-face during the daytime at homes of the selected participants. This could result in a risk of selection bias, since households in which all family members work during the day were less likely to be a part of the study. We tried to minimize the effect of this bias by attempting multiple visits to the non-responding selected households, and returning to these during the weekend. Second, the assessment of perceptions about FMs included three open-ended questions that allowed

participants to express their thoughts freely in this section of the interview. However, these responses were not audio-recorded, and we relied on the note-taking ability of the interviewers to document information. This method might have resulted in a loss of information that could have otherwise further enriched our results. Finally, our study assessed purchase behaviors, and purchasing does not always lead to consumption. This limited our ability to determine whether consumers of FMs were actually consuming more fruits and vegetables, compared to non-consumers.

CONCLUSIONS

This study provides insight on FM consumers and non-consumers purchase behaviors, and motivators and barriers to access the FMs, even when in proximity to place of residency. We contributed to the state of knowledge, by deepening the understanding of barriers to be faced, and we are confident that this information will lead to actions that can strengthen and increase of the use of FMs as the main venues for fruit and vegetable purchases in the Costa Rican population.

Our findings also offer FM managers and vendors information on potential improvements, including better hygiene conditions, uniform prices throughout the market, and providing each vendors with more space, as well as more space for people to walk comfortably. Promotion messages can be tailored to highlight benefits that are already well known in FMs, such as good prices, product quality, and variety. In addition, these messages can tailor specific ways to overcome common barriers to attending FMs, which will lead to more effective social marketing strategies to promote their usage. Our ultimate goal is an increase in the use of these markets as the main venue for fruit and vegetable purchases in the Costa Rican population.

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Contributors

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