

Food Intake Patterns and Perceived Barriers to Fruit and Vegetable Consumption among Minorities

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Objectives and Design

The *New Brunswick Community Farmers Market Survey* was conducted in 2009 to examine the perceived barriers to fruit and vegetable access and intake in an urban setting (New Brunswick, NJ). In-person interviews among 552 adults were conducted at the Farmers Market (23%), residences (20%), and community organizations/events (57%). Collected data included socioeconomic and demographic characteristics, food intake, nutrition knowledge and skills, and perceived barriers to fruit and vegetable intake. Data were analyzed using (PASW) SPSS for Windows 18.

Funded by Johnson and Johnson.

Participant Characteristics

	% or mean ± SD*
Age (y)	40.1 ± 15.1
Gender:	
Female	74.3
Male	24.5
Education:	
< High school (HS) diploma	29.7
High school graduate	20.7
Some college/college graduate	33.2
Advanced college degree	12.5
Race/ethnicity:	
Hispanic/Latino	46.7
Black/African American	27.0
White/Caucasian	18.1
Other	6.7
Country of birth:	
USA	42.2
Another country (Latino)	41.7
Another country (non-Latino)	8.3
Employment:	
Unemployed	35.7
Employed	45.1
Rutgers student	4.9
Prefer not to say	12.1
Household income:	
<20,000	20.1
20-29,000	9.8
30-39,000	5.4
40-49,000	5.4
50-59,000	4.7
60,000+	17.4
Prefer not to say	15.4
Don't know	19.9
Food security:	
Highly food secure	36.4
Marginally food secure	10.3
Low food security	32.2
Very low food security	19.6

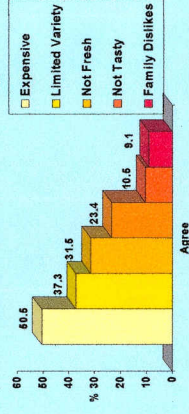
* n=552; percentages may not add up to 100 due to rounding and missing data.

Results

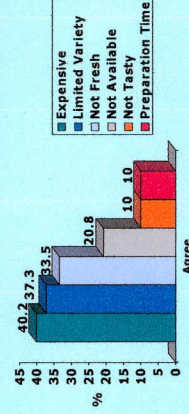
High cost, limited variety, and lack of freshness were the most frequently cited barriers to eating fruits and vegetables.

About 60% of the participants thought they were eating enough fruits and vegetables per day, yet about 75% of them were either unaware of the recommendations or thought less than 5 servings per day was adequate.

Perceived Barriers to Consuming Fruits



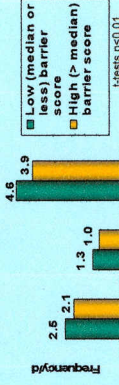
Perceived Barriers to Consuming Vegetables



Total Servings of Fruits and Vegetables One Should Eat for Good Health



Fruit & Vegetable Intake Frequency by Barrier Levels



Who is More Likely to Experience Barriers?

Characteristic	High barrier score (>median), %
Hispanic/Latino	65.9*
Black	36.2
White	30.0
US-born	32.6
Foreign-born (Latino)	47.8*
Foreign-born (non-Latino)	65.7*
Less than HS diploma	67.7*
HS graduate/GED	54.4*
College+	35.7
Highly food secure	29.4
Marginally food secure	54.4*
Low food secure	61.8*
Very low food secure	64.8*

*χ² p<0.01

Correlates of Higher Barrier Perception

Characteristic	OR	95% CI	p
Education			
US diploma	2.09	1.22-3.60	0.007
HS graduate	1.98	1.18-3.31	0.009
College+	1.00		
Country of birth			
Foreign-born (Latino)	1.94	1.18-3.17	0.013
Foreign-born (non-Latino)	2.02	1.02-3.99	0.043
US-born	1.00		
Low/very low food secure	2.05	1.35-3.11	0.001
Food secure	1.00		

Logistic regression model adjusted for age; Nagelkerke R²=20.1%. High barrier score:>median.

Conclusions and Implications

- In this urban sample, the most commonly reported barriers to eating fruits and vegetables were high cost, lack of freshness, and limited variety. Although majority of the participants reported eating enough fruits and vegetables, lack of awareness about recommended intake levels was evident.
- Participants with low education level, and those who were born-outside the USA, Hispanic/Latino, or food insecure were more likely to report a high level of barriers.
- Participants who reported higher level of barriers were likely to have lower intake frequency of fruits and vegetables.
- Farmers markets can be a viable solution to both help alleviate these barriers and to provide nutrition education when aiming to improve nutrition knowledge and food intake patterns especially among minorities in urban settings.